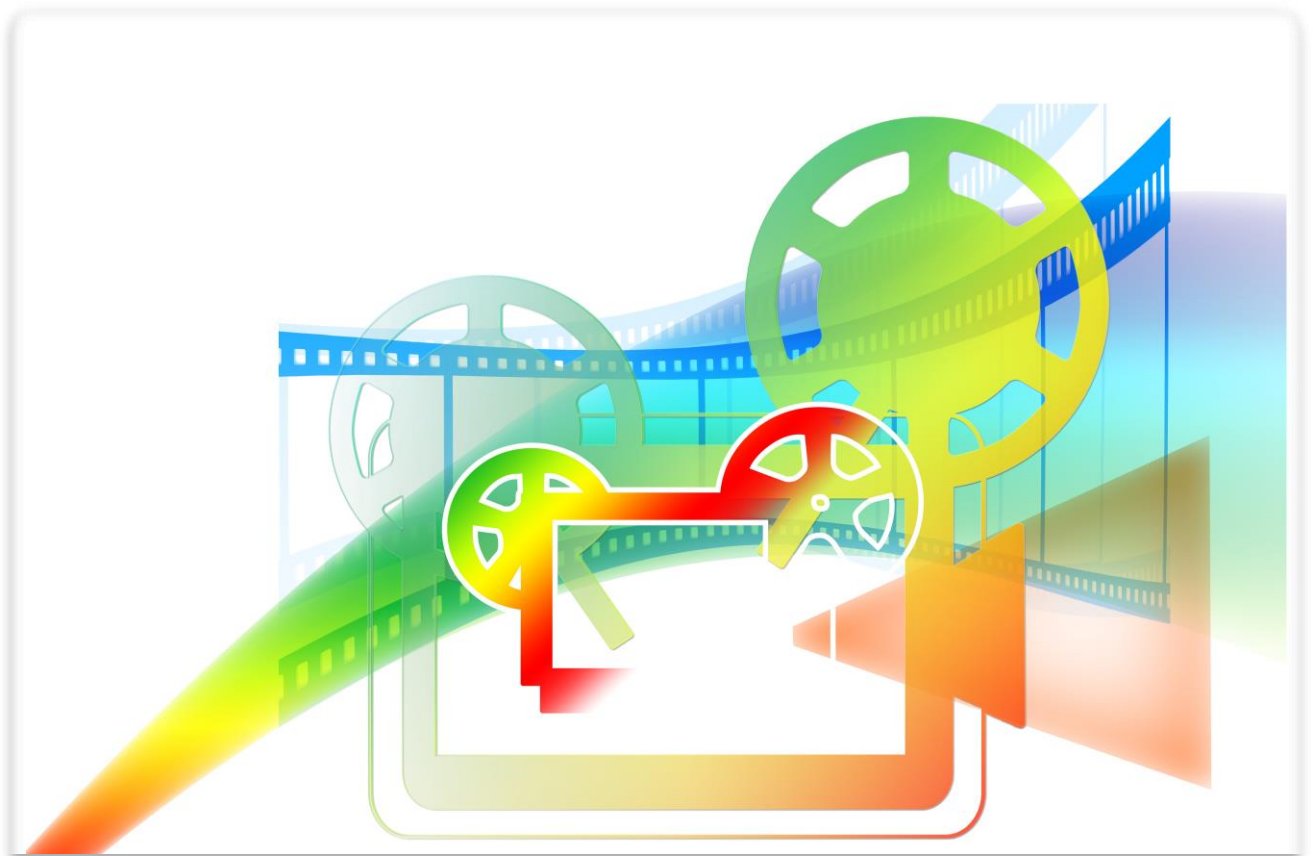


ONLINE COPYRIGHT INFRINGEMENT IN THE EUROPEAN UNION TITLE-LEVEL STUDY: FILM, MUSIC AND TV



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TITLE-LEVEL STUDY: FILM, MUSIC AND TV

ISBN - 978-92-9156-282-4 doi: 10.2814/77158 TB-01-20-645-EN-N

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ACKNOWLEDGEMENTS

The authors would like to thank Gilles Fontaine of the European Audiovisual Observatory and Linda Zommere of the Ministry of Culture of the Republic of Latvia for helpful comments on an earlier draft of this report.



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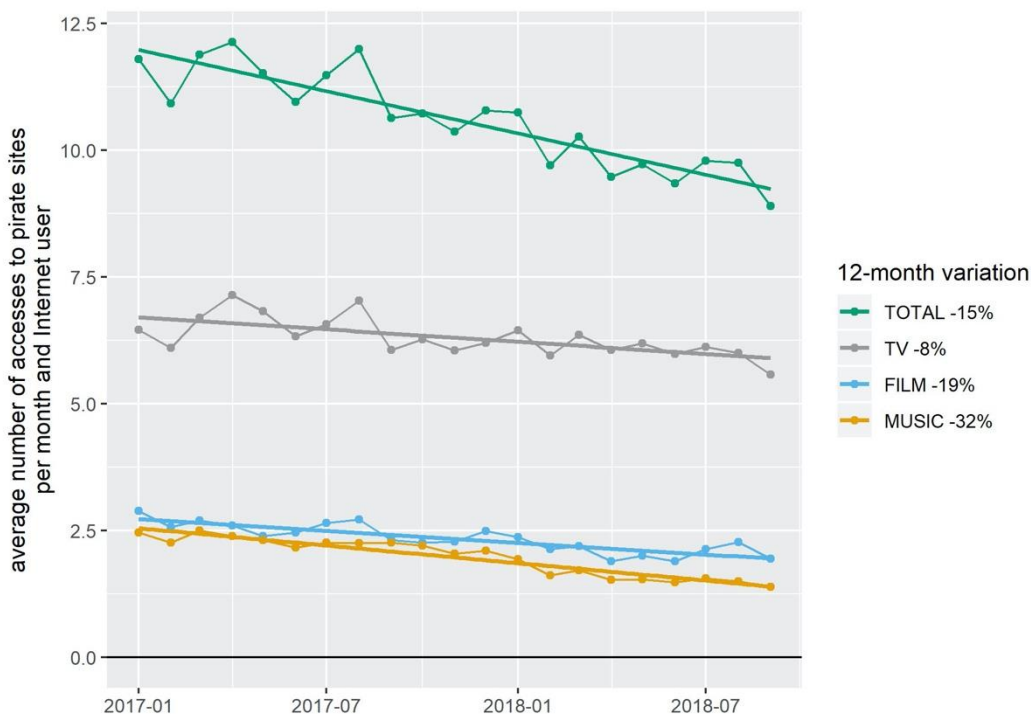
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1 INTRODUCTION

In November 2019 the European Union Intellectual Property Office published a study on *Online Copyright Infringement in the European Union*. The analysis was based on a rich set of data on access to pirated music, film and TV programmes in all 28 Member States, for the period January 2017 to September 2018. The data covered the main access methods: streaming, downloads, torrents and stream ripping.

The study found that digital piracy was on the decline, as shown in the figure below. Between 2017 and 2018, overall access to pirated content decreased by 15 %.

Figure 1. The trend in EU piracy 2017-2018



Source: EUIPO (2019): Online Copyright Infringement in the European Union

However, piracy remained a significant problem, more so in some Member States than in others. The average internet user in the EU accessed pirated content 9.7 times per month in 2018, ranging from almost 26 times per month in Latvia and Lithuania to less than four times per month in Finland.

The study also investigated factors that could explain the differences between Member States. These factors included socioeconomic, demographic, market variables, the number of legal offers available, and attitudes toward IP infringement.

The present study is a follow-up study, examining consumption of pirated content in the Member States on the level of individual titles and artists. Using title-level data on pirated film, music and TV

series for January-September 2018, the study identifies the most pirated creative works by country of access and other relevant variables. A descriptive analysis for the three types of content is presented, and in the case of film piracy, an econometric analysis of the factors influencing the pattern of piracy is carried out, to identify the types of film most likely to be pirated.

2 EXECUTIVE SUMMARY

This report is based on an analysis of the 30 most frequently pirated⁽¹⁾ creative works in each of the EU Member States, including 316 films, 500 music artists and 309 TV series⁽²⁾. The data on consumption of pirated content was purchased from MUSO, a leading commercial provider of such data, while the data on legal consumption of film (as measured by the number of admissions to theatres) was obtained from the European Audiovisual Observatory's Lumiere database. For music and TV series, such data is not available at the title and artist level. For this reason, the analysis in this report is more extensive for film than for music and television.

Piracy mainly affects creative works recently produced and released. In the case of film, two piracy patterns appear. Firstly, piracy follows commercial success. Therefore, it is suffered mainly by films that were commercially successful in cinemas and enjoyed wide international distribution. For this reason, piracy is suffered above all by US productions (84 % of the MUSO list) but also British, French and Italian ones. Piracy of films from these four countries represents 96 % of film piracy in the EU⁽³⁾.

The second pattern affects films that were successful in the producing country and that did not enjoy a wide international distribution. In this case, most of the piracy occurred in countries where the films were not released⁽⁴⁾. In this case, piracy is much higher than their commercial success⁽⁵⁾. This is the case for films from Canada, Australia, China, Finland, Germany, India and Russia. Piracy of films from these seven countries represents 2.8 % of film piracy and 1.8 % of admissions in EU cinemas. Although the total cumulated piracy of the last group is low, they suffer a relatively higher piracy rate than the more widely distributed films.

The factors behind film piracy were further examined in regression models. This analysis shows that commercial success is associated with higher levels of piracy: when the number of tickets sold increases by 10 %, the number of illegal downloads increases by 3.7 %. The regression analysis also found that, despite the large amount of piracy suffered by US-produced films, holding all other factors constant, they do not suffer greater piracy than films with similar characteristics (such as commercial success, genre, production year) produced elsewhere.

Piracy was concentrated in new releases. Thus, holding other factors constant, films produced before 2017 suffered 58 % less piracy than 2017 productions. Animated and documentary films suffer 49 % less piracy than 'live action'⁽⁶⁾ films. Finally, films produced domestically suffer 37 % less piracy in the country of production, again, holding other factors constant.

⁽¹⁾ The term 'piracy' strictly speaking refers to the distribution of content that violates copyright. The present report is concerned with the consumption of such content. However, as shorthand, 'piracy' is also used here to refer to such consumption of illicit content.

⁽²⁾ The list included additional creative works (or artists) but some of the less pirated works were eliminated due to data quality issues.

⁽³⁾ During 2018, the UK was still a Member State of the EU and is therefore included in the analysis.

⁽⁴⁾ See Table 6.

⁽⁵⁾ With the exception of Spanish films; possible reasons are discussed in Chapter 5.1 Films.

⁽⁶⁾ Live action denotes non-animated, non-documentary films.

In short, film piracy targets mainly commercially successful mainstream films. Looking at the tastes of consumers of pirated content across the EU, it seems that there is a high degree of homogeneity, with the list of the top 30 most pirated film in each Member State quite similar to the top 30 list for the EU as a whole. This is less so for TV series and especially music, where the tastes among consumers of pirated content vary significantly across the Member States. Specifically, on average, 21 of the top 30 films in each Member State were also in the EU top 30 list, while the corresponding figure for TV series was 19 and that for music 16.

TV series are the most frequently pirated creative works but the relationship between piracy and popularity of the corresponding legal content is more difficult to ascertain; of the 30 most pirated television series, only five are among the 30 most popular according to IMDb⁽⁷⁾. During the period January-September 2018, 435 million episodes of the most pirated TV series (The Walking Dead) were illegally downloaded, compared to 45 million downloads of the most pirated film (Justice League).

In music, there is also a relationship between commercial success and piracy, although with a delay: many of the best-selling musicians of 2017 were the most pirated artists in 2018. The overall level of piracy is lower for music than for the other two types of content. The most pirated musician (Ed Sheeran) suffered 7.5 million illegal downloads⁽⁸⁾.

⁽⁷⁾ IMDb is a popular and authoritative source of information on films, TV and celebrities. One of the services provided is MOVIEmeter, a measure of popularity of films and TV shows. However, the relationship between the IMDb score and commercial success is not necessarily one-to-one.

⁽⁸⁾ However, the relationship between the levels of piracy of films, TV series and Music must be considered critically since they are not homogenous creative works.

3 LITERATURE REVIEW

This section contains an overview of some recent studies that were consulted in carrying out the present study. Of the three types of content considered, film is the one which has received most attention among academic researchers.

Many studies of the film industry examine the global market for films and the prominent role played in it by Hollywood. For example, Walls & McKenzie (2012) examine the question whether Hollywood's international relevance is due to other countries' interest and taste for American culture or is it that Hollywood is able to supply the films that global audiences demand (supply driven or demand-driven phenomenon). They coin the term 'cultural discount' to describe the phenomenon of lower demand for non-domestic products that are less familiar in terms of historical perspective, context and language. Small countries tend to be more affected by this, as their products tend to be less familiar to viewers in other countries. For many productions, foreign revenue is larger than domestic revenue. As a consequence, major producers such as those in Hollywood have been successful in adapting their offer to global markets. Lorenzen (2007) reaches a similar conclusion and states that Hollywood has made special emphasis on reducing the so called 'liabilities of foreignness' by being present with local distribution and adapting their marketing campaigns to non-US markets. Crane (2014) states that US films have succeeded because they 'eliminate cultural complexity'.

This prevalence of US-produced films discussed in the literature is mirrored in the findings of the present study – both in terms of legal admissions to cinemas and in terms of access to pirated content, US films have the highest market share.

Turning to piracy, studies have attempted to estimate the impact of piracy on legal consumption, particularly for film. A recent example is Ma, Montgomery and Smith (2016), an empirical study to assess the effects of piracy on box office revenue. The authors test the claim that suggests that piracy has a dual effect on box office revenue: a cannibalisation effect, meaning that revenue decreases due to illegal consumption; and a promotion effect that states that pre-release piracy may increase box office revenue as it acts as a promotional word-of-mouth effect. The authors found a heterogenous effect across films, but on average pre-release piracy reduces box office revenue by around 15 %, making the overall effect of piracy negative.

Piracy of recorded music is one of the oldest types of digital copyright infringement, most likely because until the recent widespread availability of fast broadband services, consuming pirated film or TV was not feasible, while music, with its much lower bandwidth requirements, was subject to piracy long before the other forms of entertainment. Hence, over the years, numerous studies of music piracy have been carried out. Two early examples include Bhattacharjee, Gopal and Sanders (2003), an empirical study of factors that influence music piracy (bandwidth and price of legal offers were found the most important); and Chiou, Huang and Lee (2005), which examined the behavioural and attitudinal variables that affect music piracy. More recent studies, including the EUIPO 2019 IP and Youth Scoreboard, also studied the motivation of users of illicit content, with price, availability

and choice being the main reasons for accessing illicit content (including pirated music) by European consumers aged 15 to 24.

Other studies have attempted to estimate the magnitude of music piracy and its consequences for the providers of legal content. As shown in EUIPO (2019), music is less affected by piracy than film and television, even if the absolute amount is still substantial. IFPI in its Music Consumer Insight Report (2018) finds that 38 % of consumers globally access copyright-infringing music. One of the key issues has been the extent to which music piracy reduces the revenue of the legitimate music industry. This strand of research began about 20 years ago, when the global music revenues began to decline following the introduction of Napster⁽⁹⁾ in 1999. Many of the early studies are summarised in Smith and Telang (2012). The typical finding was that while music piracy had an impact on industry revenue, the displacement effect was less than 1, meaning that not every pirated recording would have been purchased by the consumer if piracy did not exist.

More recent studies have noted that music industry revenues are growing again. In its latest Global Music Report, IFPI (2020) reports that in 2019, global music sales increased by 8.2 %, driven by strong increases in streaming revenue, continuing the pattern in recent years. Some authors have sought to analyse the reasons behind this improvement. Quintais and Poort (2018) conclude that music piracy is declining mainly because of the greater availability of affordable legal offers.

Despite the large volume of piracy of TV programmes, the literature dedicated to it is quite scarce. A recent report is Blackburn, Eisenach and Harrison (2019), which also summarises some earlier research. The report finds that the US film and television production and distribution industry (those going beyond pure TV) loses between 11 % and 24 % of annual revenue due to piracy, with the range depending on the assumptions regarding the displacement ration. They also assert that most of the pirated US films and television programmes are consumed by viewers outside the US, a finding that is consistent with the prevalence of US-produced works in the findings of the present study.

The French anti-piracy public authority Hadopi conducts frequent studies of various types of piracy among the French public, one of which was published in 2019, concerning the use of illicit live television content. The study found that 24 % of French internet users engaged in consumption of such content, with illicit streaming of live sporting events the most prevalent type of piracy.

⁽⁹⁾ Napster was founded in 1999 as a pioneering peer-to-peer (P2P) file sharing internet service for sharing digital music, encoded in MP3 format. The service was forced to shut down in July 2001 after being found guilty of copyright infringement in US courts.

4 DATA

4.1 MUSO: Tracking piracy

MUSO is a London-based company that provides statistics on piracy activity, by tracking online consumption of copyrighted content such as music, films, television, publications or software. It also provides information about the audience of piracy websites⁽¹⁰⁾ and their behaviour.

MUSO provided the EUIPO with title-level data on the illegal consumption of digitally pirated films, TV series and music gathered over a 9-month period, from January 2018 to September 2018 in all EU Member States. The MUSO figures represent absolute 'activity' values; visits to piracy sites that represent individual accesses that could be associated with the consumption of a creative work.

This 'activity' is used as the basic data unit in this report. In the 2019 study, in which the objective was to compare piracy levels and trends between countries, the unit for analysis was the average number of 'activities' per internet user per month in each country and period. However, as the present study focuses on individual creative works, total number of activities by title or artist has been used instead.

The MUSO information is detailed by name of creative work (film, song, album, TV series); by geographical location, i.e. the country of origin of the consumer of copyright-infringing content, for the 27 Member States of the EU and the UK; and by the type of creative work (music, film or TV content) accessed. Altogether, the total number of accesses reported by MUSO during the 9 months adds up to more than 9.3 billion accesses: 7.7 billion to TV shows, 1.5 billion to films and 0.1 billion to music. The data was reported monthly.

MUSO compiles the title-level data by monitoring the torrent⁽¹¹⁾ downloads directly and then estimating total activity considering other methods of access such as streaming⁽¹²⁾, downloading⁽¹³⁾ and stream ripping⁽¹⁴⁾ in the case of music. All figures shown in this report refer to the total of all methods of access.

⁽¹⁰⁾ MUSO has developed a database of more than 100 000 piracy sites that are actively monitored. Shutdowns, moves and domain changes are tracked, and the sites are classified by piracy category and the type of content on offer. A combination of automation, machine learning and human verification is used to identify new sites and to detect redirects, mirror sites and proxies.

⁽¹¹⁾ From BitTorrent, a communication protocol for file sharing.

⁽¹²⁾ Online streaming directly from an end-user's web browser.

⁽¹³⁾ Direct downloading in the user's web browser.

⁽¹⁴⁾ *Ripping* is extracting all or parts of digital contents from a container – mainly MP3 files. The *Web ripping* process takes place directly in a user's web browser. Typically, the user simply needs to enter a URL to instantly start the download of the MP3 file. Illegal stream ripping is typically used to rip the audio from music videos, often from legitimate sources.

4.2 LUMIERE: Film attendance

The European Audiovisual Observatory provides statistical and analytical information on film, television, video/DVD, new audiovisual media services and related public policy. As part of this activity, the Observatory provides the **Lumiere** database on admissions to cinemas in Europe⁽¹⁵⁾. Data obtained from this database included each film's production year, production country, director and film genre.

For this study, information on 22 355 films from Lumiere was used, including 56 252 national 'translated' titles of the films. For example, the film 'Justice League' was released under 23 different names such as 'La Ligue des Justiciers', 'Teisingumo lyga', 'Justice League Mortal' or 'Лига справедливости'. The national titles were used to consolidate the MUSO data, adding up the accesses to all the linguistic versions of the same film.

Annex 8 reproduces a list of sources of national data, admissions but also box office revenues, from which Lumiere is compiled. Comments are included to help understand the accuracy of the data.

The lack of sufficient certainty as to whether a film was released in some countries has led to omitting the observations from those countries from the regression analysis, as discussed below.

4.3 IMDb: TV series information

The IMDb (Internet Movie Database) is an online database for films, video games and television. It includes information on more than 10 million films, TV programmes, music and celebrities as well as ratings. Moreover, it includes metadata and information on full lifetime box office gross revenue⁽¹⁶⁾. The extracted data for this report included cinema counts, box office revenue for 2017⁽¹⁷⁾ as well as the MOVIEmeter and IMDbID to identify TV series. The MOVIEmeter is a ranking of titles based on the number of pageviews. The algorithm developed by IMDb ensures that a user is counted only once, even if s/he visits the same page several times. Therefore, the ranking is based on 250 million unique monthly visitors to the legitimate sites providing this content. This ranking fluctuates from month to month, and therefore an average for 2018 was calculated to measure the popularity of a TV series.

4.4 Apple Music: Music information

Apple Music was used to obtain the artist's identifier as well as the music genre and the artist's country of origin.

⁽¹⁵⁾ Including countries outside the European Union.

⁽¹⁶⁾ <https://developer.imdb.com/>

⁽¹⁷⁾ Data available only through IMDbpro.

4.5 IFPI: Music information

The data on ranking of artists by album sales in 2017 and 2018 was obtained from IFPI⁽¹⁸⁾.

4.6 Matching the different data bases

The data from the different sources was matched based on the name of the creative works, considering the original titles but also the national translations in the case of films and TV series. Subsequently, ambiguous results were checked through a detailed manual revision to improve the accuracy of the matches. The tables in this report include the relevant database identifiers to help readers review the results and to facilitate possible further studies by others.

⁽¹⁸⁾ <https://www.pro-music.org/>

5 FINDINGS

In this section, the main findings of the analysis are presented for each of the three types of content. Because data on legal consumption on the level of individual titles was available only for film, the analysis of television and music is mainly descriptive, while film piracy is also subject of an econometric analysis.

5.1 Films

Table 1 shows the 30 most pirated films in 2018 in the whole of the EU28. The majority are productions from 2017 and 2018 and released in cinemas in practically all Member States in 2017 or 2018. Only two films in this top 30 list were produced and released prior to 2017: *Suicide Squad* (2016) and *Avengers: Age of Ultron* (2015). In the case of *Avengers: Age of Ultron* its popularity could be due to the premiere of a sequel in 2018, *Avengers: Infinity War*.

For each film, the Table shows total admissions to cinemas and the box office revenue for 2017 and 2018. Adding up these two years helps to make meaningful comparisons, since some of the most pirated films in 2018 had much of their success in cinemas in 2017. The box office revenue is presented for informational purposes only, since it is often not available in Lumiere for certain films and certain markets. The admissions data is of higher accuracy and that is why they have been used in the regressions presented later in this section.

Table 1. Top 30 most pirated films in the EU28

Lumiere ID	Original title	Prod. Year	Producing Countries	Admissions (Million) 2017 & 2018	Box Office (€M) 2017 & 2018	Piracy activity (Million) Jan to Sep 2018
72536	Justice League	2017	US	8.88	45.32	42.82
72535	Thor: Ragnarok	2017	US	14.61	74.86	40.10
72550	Wonder Woman	2017	US CN HK	19.06	94.74	33.18
72542	Spider-Man: Homecoming	2017	US	12.90	66.81	31.89
72541	Dunkirk	2017	UK* US FR NL	17.31	104.85	30.84
72860	Jumanji: Welcome to the Jungle	2017	US	17.36	103.12	28.11
72526	It	2017	US CA	17.24	83.59	28.05
72564	The Circle	2017	US AE	2.25	6.79	27.29
72549	Cars 3	2017	US	11.26	42.10	27.17
72530	Blade Runner 2049	2017	US UK HU CA	9.02	48.54	25.59
72589	Kingsman: The Golden Circle	2017	UK* US	8.78	44.91	25.50
72596	Atomic Blonde	2017	US SE	2.54	11.23	25.41
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	34.56	187.51	24.78
73392	A Ghost Story	2017	US	0.11	0.65	23.39
77575	Avengers: Infinity War	2018	US	30.84		22.96
72546	Logan	2017	US	11.05	52.38	20.95
67790	Suicide Squad	2016	US	14.43	94.70	20.45
72568	Coco	2017	US	17.51		19.69
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	19.02	80.99	17.49
74751	The Shape of Water	2017	US	6.97	33.06	17.45
77610	Black Panther	2018	US	18.84		17.39
72905	The Foreigner	2017	UK* US CN	0.54	2.48	17.35
72540	The Fate of the Furious	2017	US CN JP	21.29	93.41	17.09
77583	Deadpool 2	2018	US	16.22		17.08
72557	War for the Planet of the Apes	2017	US	9.93	45.56	17.00
72537	Guardians of the Galaxy Vol. 2	2017	US	16.92	81.51	16.96
72565	Valerian and the City of a Thousand Planets	2017	FR CN US DE AE	8.26	13.21	16.77
72594	Baby Driver	2017	UK* US	5.03	26.60	16.63
72548	Kong: Skull Island	2017	US CN	8.04	39.10	16.29
55982	Avengers: Age of Ultron	2015	US	22.11		16.17

Source: MUSO, Lumiere ⁽¹⁹⁾ (*) These are 'GB Inc'. productions, films financed and backed by US studios.

The most notable fact is the prevalence of US-produced films on the list. Of the top 30 pirated films, 18 are US productions, while in the case of the remaining 12 films, a US firm is listed as a co-producer.

⁽¹⁹⁾ Because the Audiovisual Observatory updated the Lumiere database after collecting the data for this study by adding missing figures for small countries, there could be small discrepancies in the data between the version used for this study and the version available now; this difference does not change any conclusions or ranking. Box office data may not be complete.

There may be various reasons for this, as discussed in the literature review above. US productions also dominate the legal market: of the 30 films with the most admissions in the EU in 2018, 21 were US productions and the remaining 9 co-productions with US involvement, as shown in Table 2.

Table 2. Top 30 films by cinema admissions (EU28, 2017-2018)

Lumi. ID	Original title	Prod. Year	Producing Countries	Admissions (Million) 2017 & 2018	Box Office (€M) 2017 & 2018	Piracy activity (Million) Jan to Sep 2018
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	34.56	187.51	24.78
72499	Despicable Me 3	2017	US	31.38	131.12	12.45
77575	Avengers: Infinity War	2018	US	30.84		22.96
68817	Beauty and the Beast	2017	US	28.83	155.14	7.54
77608	Incredibles 2	2018	US	27.79		0.33
55928	Avengers: Age of Ultron	2015	US	22.11		16.17
77578	Jurassic World: Fallen Kingdom	2018	US	22.04		2.02
72540	The Fate of the Furious	2017	US CN JP	21.29	93.41	17.09
67805	Fantastic Beasts and Where to Find Them	2016	UK* US	21.27	136.82	0.11
67854	Sing	2016	US JP	20.63	88.99	6.78
72500	Fifty Shades Darker	2017	US CN	20.01	85.11	9.45
72550	Wonder Woman	2017	US CN HK	19.06	94.74	33.18
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	19.02	80.99	17.49
77610	Black Panther	2018	US	18.84		17.39
77576	Hotel Transylvania 3: Summer Vacation	2018	US	18.21	72.26	0.14
76435	Fifty Shades Freed	2018	US	17.56	74.54	12.16
72568	Coco	2017	US	17.51		19.69
72860	Jumanji: Welcome to the Jungle	2017	US	17.36	103.12	28.11
72541	Dunkirk	2017	UK* US FR NL	17.31	104.85	30.84
72526	It	2017	US CA	17.24	83.59	28.05
72537	Guardians of the Galaxy Vol. 2	2017	US	16.92	81.51	16.96
77583	Deadpool 2	2018	US	16.22		17.08
68094	La La Land	2016	US	15.23	71.82	5.59
66252	The Revenant	2015	US	14.73	88.42	0.71
72535	Thor: Ragnarok	2017	US	14.61	74.86	40.10
67790	Suicide Squad	2016	US	14.43	94.70	20.45
63472	The Martian	2015	US UK	13.62		3.34
77618	Peter Rabbit	2018	US AU	13.22	67.99	1.63
72542	Spider-Man: Homecoming	2017	US	12.90	66.81	31.89
40120	The Amazing Spider-Man	2012	US	12.85		1.65

Source: MUSO, Lumiere (*) These are 'GB Inc'. productions, films financed and backed by US studios.

The 14 titles shown in boldface in Table 2 are not among the 30 most pirated films in Table 1. Many of those films were produced in 2016 and earlier years.

The most pirated films are often the same for all countries; however, some national differences can be observed. Table 3 shows the films that are in the top 10 most pirated in a particular Member

State but are not in the EU top 30. For example, the most pirated film in Spain, *The Mummy*, was not in the EU top 30 pirated films list.

Table 3. Top 10 most pirated films by country that there are not in the top EU 30

Market Top 10 pirated	Lumiere ID	Original title	Prod. Year	Producing Country	Admissions (Million) 2017 & 2018	Box Office (€M) 2017 & 2018	Piracy activity (Million) Jan-Sep 2018
BE-09	76435	Fifty Shades Freed	2018	US	0.46	4.26	1.72
BG-04	72499	Despicable Me 3	2017	US	0.19	0.82	0.24
10	72616	American Assassin	2017	US	0.01	0.06	0.15
DE-03	72552	Paddington 2	2017	UK FR	1.97	0.00	1.31
04	77626	Pacific Rim: Uprising	2018	US UK JP CN	0.43	0.00	1.00
ES-01	72139	The Mummy	2017	US CN	1.39	8.42	2.48
08	72584	Baywatch	2017	US CN UK	0.40	2.28	0.48
10	77621	Rampage	2018	US	0.45	2.80	0.47
FR-07	76435	Fifty Shades Freed	2018	US	2.77	0.00	6.39
IE-03	74915	Three Billboards Outside Ebbing, Missouri	2017	US UK			0.45
10	72638	The LEGO Ninjago Movie	2017	US DK			0.30
LT-02	74915	Three Billboards Outside Ebbing, Missouri	2017	US UK	0.01	0.04	0.31
03	67854	Sing	2016	US JP	0.10	0.43	0.20
04	77196	Brawl in Cell Block 99	2017	US			0.14
06	72602	Geostorm	2017	US	0.02	0.15	0.12
LV-03	77586	Ready Player One	2018	US	0.02	0.13	0.50
07	72677	The Last Word	2017	US	0.00	0.01	0.36
10	72602	Geostorm	2017	US	0.02	0.08	0.32
MT-06	73362	Girls Trip	2017	US			0.05
10	72593	The Greatest Showman	2017	US			0.04
NL-05	70908	Guardians	2017	RU			0.91
06	74753	Downsizing	2017	US	0.07	0.59	0.88
PL-05	72561	American Made	2017	US	0.31	0.00	4.10
10	72576	The Dark Tower	2017	US	0.18	0.00	2.78
SE-10	74753	Downsizing	2017	US			0.47
SI-04	74753	Downsizing	2017	US	0.00	0.01	0.12

Source: MUSO, Lumiere

Four of the top 10 most pirated in Lithuania are not on the EU list. Likewise, the film *Downsizing* was in the top 10 for piracy in three countries: the Netherlands, Sweden and Slovenia, but not in the EU. As is the case on the EU level, the films in Table 3 all are productions from 2017 and 2018 except *Sing*, in the top 10 of Lithuania, produced and released in many countries in August 2016 but also released in other countries such as Italy and Poland in mid-2017.

Annex 9 shows the 30 most pirated films for each Member State.

Table 4 shows aggregate data for cinema admissions and piracy for all the 316 pirated films included in this study. In general, there appears a relation between the legal market and piracy: 196 US films account for 86 % of total admissions and 84 % of piracy. Forty British films with a market share of 8.5 % in admissions represented 9.6 % of piracy.

Table 4. Film piracy in the EU28 by first producing country

First producing country	Number of films	Total piracy, 2018	% of total	Cinema admissions, 2017-2018	% of total
United States of America	196	1 175 706 134	83.81	991 631 173	85.96
United Kingdom*	40	134 049 595	9.56	98 349 718	8.53
France	10	26 057 102	1.86	21 928 781	1.90
Russian Federation	2	13 069 267	0.93	104 592	0.01
Canada	9	12 215 944	0.87	1 146 326	0.10
Italy	8	10 174 107	0.73	5 429 876	0.47
Australia	7	7 225 462	0.52	2 006 678	0.17
Ireland	4	3 532 488	0.25	1 020 487	0.09
China	4	3 316 030	0.24	1 670 657	0.14
Poland	7	2 863 217	0.20	10 767 898	0.93
South Africa	1	2 677 135	0.19	267 975	0.02
South Korea	2	2 651 113	0.19	3 191 493	0.28
Sweden	4	2 292 120	0.16	3 914 547	0.34
Spain	9	1 832 495	0.13	11 426 687	0.99
Germany	2	1 538 129	0.11	92 957	0.01
India	2	978 595	0.07	50 320	0.00
Belgium	1	730 703	0.05	10 248	0.00
Denmark	1	460 252	0.03	198 283	0.02
Argentina	1	358 671	0.03	9 644	0.00
Finland	2	328 007	0.02	48 137	0.00
Czech Republic	1	293 585	0.02	3 431	0.00
Brazil	1	281 283	0.02	122 694	0.01
Hungary	1	181 219	0.01	72	0.00
Serbia	1	28 265	0.00	190 603	0.02

Source: MUSO, Lumiere (*) including GB Inc. producers, meaning financed and back by US studios

These 316 most pirated films during the period are only a small fraction of films shown in the EU. According to the data in Lumiere, in 2018 there were 722 million admissions in the EU28 to the 1 466 films produced in 2017 or 2018, of which 12 % were US productions (first producing country), gathering 65 % of all admissions. UK films were 5.5 % of the total, gathering 9.8 % of all admissions. On average there were 1.22 downloads of these films during January-September 2018 for every cinema admission in the 24 months 2017-2018. In the case of US productions this ratio was 1.19, lower than for many other countries. For UK films, the ratio was 1.36.

Spain is an interesting case. Spanish productions are fourth in terms of the number of cinema admissions, but only 14th in terms of piracy activity; the ratio of piracy to admissions is only 0.16, the lowest of all countries in the list. The most pirated Spanish film was *Champions* (Campeones), second in number of admissions behind the anime film *Tad the Lost Explorer and the Secret of King Midas* (Tadeo Jones 2: El secreto del Rey Midas). Despite a relatively extensive international release, 15 countries for 'Tad' and nine for 'Champions', the majority of admissions occurred in Spanish cinemas. In addition, as shown below, animated films suffer much less piracy than action films.

The contrary is true for the two Russian productions *Guardians* (Защитники) and *Going Vertical* (Движение вверх) that are in 4th position among the most pirated films, but only 17th in terms of cinema admissions. This was probably because, despite being popular films, they had a reduced

geographical distribution: *Guardians* (by far the mostly pirated of the two) was only released, according to Lumiere, in Bulgaria, the Czech Republic, Estonia, Latvia and Russia.

In the case of Spanish and Russian productions, most of the piracy occurs in countries where the films were not released. As can be seen in Table 6 below, this was also the case for productions from Canada, China, Finland, Germany and India. As mentioned before, in the case of US and British productions, there is a relation between their share of the legal cinema market and piracy; for the films from these countries, most of the piracy happens in countries where the films were released. The same is true for the productions from France, Italy, Poland and Sweden.

The relationship between cinema admissions and piracy activity is illustrated in Figure 2⁽²⁰⁾.

Figure 2. Cinema admissions vs piracy activity



Source: Lumiere, MUSO (aggregated EU28 consumption)

At first glance, it appears that US films enjoy greater success in cinema and suffer more piracy. To quantify the relationship, a multiple regression analysis was carried out, to try to explain piracy by cinema admissions and other variables thought to have an effect on observed piracy levels.

Due to lack of certainty as to whether a film was released or not, observations from Malta, Luxembourg, Cyprus, Ireland and Sweden were omitted; in total 3 231 complete observations from 23 countries were used. As stated above, piracy data was available for 316 films produced in 2017 or 2018; these 3 231 observations relate to a subset of 147 films on which there are admissions data in

⁽²⁰⁾ Axes are logarithmic to better represent the dispersion of the variables.

Lumiere for 2017 or 2018 for at least one country (there will be from 1 to 23 countries observations depending on the film).

The main model estimated was:

$$\log(\text{piracy}) = \beta_0 + \beta_1 \log(\text{admissions}) + \partial_1 \text{released} + \partial_2 \text{prod_before2017} + \partial_3 \text{anime} + \partial_4 \text{domestic} \\ + \partial_5 \text{coproduction} + \partial_6 \text{US_producer} + \partial_7 \text{prod2018} + \sum_{i \in \text{EU23}} \kappa_i \text{country}_i + u$$

Where *piracy* is the piracy activity of the film as reported by MUSO, during the first 9 months of 2018; *admissions* is the total number of tickets sold in cinemas as reported in Lumiere (2017 and 2018). In both cases they represent one observation for each film in each Member State. The variables *piracy* and *admissions* are cardinal variables that vary widely; in such circumstances, taking logarithms of the variables has the benefit of '*narrowing the range of the dependent and independent variable can make OLS estimates less sensitive to outliers*'⁽²¹⁾. This also allows an assessment of the elasticity of *piracy* with respect to *admissions*. Taking logs of the dependent variable also facilitates the interpretation of the dummy variables, since the coefficients then can be interpreted as the percentage difference when the dummy occurs, that is, has value 1 (semi-elasticity), holding all the other factors constant.

The variable *released* indicates if the film has been released in cinemas in the country; *released* and *admissions* are related, as admissions will be zero if the film has not been released. This 'tandem' of two variables is a particular solution to the problem of the treatment of a log variable with many zero observations⁽²²⁾.

The variable *prod_before2017* indicates whether a film was produced before 2017, assuming that older movies might be of less interest to pirates. The variable *anime* is a binary variable differentiating 'live action' films from 'animation' films⁽²³⁾. The variable *domestic* indicates if one of the producing countries of the film is the country of consumption of the pirated version of it. The variable *US_producer* is a binary variable that indicates whether the first producing country of the film is the US or not. The variable *coproduction* indicates if there were more than one producing country. Finally, *prod2018* represents films produced in 2018. The inclusion of this variable is not of an explanatory nature but rather technical: it is designed to capture a limitation of the data, since some films on the list were released in 2018 (sometimes close to the end of the year) so that there was not enough time to collect complete piracy data. For that reason, part of the piracy could not be captured and a negative coefficient for this variable would be expected.

⁽²¹⁾ Wooldridge, Jeffrey M. (2012). Introductory econometrics: a modern approach.

⁽²²⁾ Bellégo, Christophe & Pape, Louis. (2019). Dealing with the Log of Zero in Regression Models; p. 12.

⁽²³⁾ Strictly speaking the variable takes on the value 1 when the film is a not 'live action' film. Among those that were not 'live action' there was one documentary while the others were 'animation' films.

Finally, the set of variables labelled *country* is a categorical variable that will take 23 values, and that will be 'split' in 23 related dummies (where only one can be true) for regression. The error term is u .

The resulting estimations are shown in Table 5. Models with different configurations were also estimated and are shown in Annex 7. However, the model below was the best according to the standard statistical criteria.

Table 5. Multiple regression model for a film piracy in a country

	Dependent variable log(piracy)	
	<i>Estimates</i>	<i>p</i>
(Intercept)	10.747 ***	<0.001
log(admissions)	0.374 ***	<0.001
released	-3.294 ***	<0.001
prod_before2017	-0.873 ***	<0.001
anime	-0.667 ***	<0.001
domestic	-0.457 ***	0.002
coproduction	-0.290 ***	<0.001
US_producer	-0.091 *	0.065
prod2018	-1.046 ***	<0.001
country dummies	not shown	
Observations	3,231	
R ² / R ² adjusted	0.692 / 0.690	

* $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

The coefficient of log(*admission*) is positive and significant and it represent the elasticity of *piracy* with respect to *admissions*: when the number of admissions increases by 10 %, the number of illegal downloads goes up by 3.7 %. This is a measure of how commercial success relates to piracy, holding other factors constant.

In the case of a dependent variable with log, the coefficients (δ_i) for the dummy variables need correction⁽²⁴⁾ for interpretation, according to the following formula:

$$e^{\hat{\delta}_i} - 1$$

These represent the % change in piracy if the condition is met (that is, the dummy variable in question takes on value 1), comparing with films that do not meet the condition. They may be termed semi-elasticities of piracy with respect to the relevant variable:

prod_before2017	-58.23%
anime	-48.69%
domestic	-36.71%
coproduction	-25.16%
US_producer	-8.71%

Thus, if a film is not a live action film, piracy is 48 % lower, other factors being equal, which can explain the case of the Spanish film discussed above. Similarly, it can be observed that film produced before 2017 will suffer 58 % less piracy compared to 2017 and 2018 productions.

Despite the high amount of piracy suffered by US films, taking into account all other factors, it seems that these films suffer somewhat less from piracy (although the estimate is significant only on the 10 % level). There are mostly big films, with a high number of admissions and released in markets with large populations – all factors that would lead to more piracy, but apparently to a lesser degree than similar films produced in other countries.

Domestic films, defined as films with one of the producers from the country of consumption, suffer 37 % less piracy, holding all the other factors fixed. Moreover, co-productions suffer 25 % less piracy.

The *released* variable estimation should be interpreted as an important decrease in piracy due to the release of a film, however it cannot be interpreted in the same manner as the other dummies since this variable is linked by construction to the admissions variable and there are no admissions before the release (unless the film has been released directly on TV or video on demand, as sometimes happens).

Table 6 shows the cumulated effects of non-release by country; it can be observed that in general **piracy in markets where the film has not been released** (labelled as 'non-released markets' in

⁽²⁴⁾ See Wooldridge, Jeffrey M. (2012). Introductory econometrics: a modern approach, Chapter 7.2 A single dummy independent variable.

the table) is much higher in productions from countries that produce relatively few films that are released in only a few markets. All of this leads to a lower piracy/admissions ratio (last column in the table) in the more 'mature' film producing countries, those that produce films that are aimed at global audience, release them in more markets and produce and co-produce more films. Apart from the cases of Spain (which has already been discussed), Sweden and Korea, the piracy/admissions ratio is lower for US, French and British films and much higher for the productions from India and Russia.

Table 6. Percentage of piracy in markets where the film was not released

First producing country	Number of films	Piracy in non-released markets	Average number of EU markets where films resealed	Total Ratio piracy/admissions piracy Jan-Sep 2018 admissions 2017&18
United States of America	196	12.4 %	21.2	1.19
United Kingdom	40	19.1 %	6.8	1.36
France	10	6.3 %	4.2	1.19
Canada	9	95.0 %	3.8	10.66
Spain	9	68.5 %	1.2	0.16
Italy	8	6.5 %	2.2	1.87
Australia	7	57.9 %	7.8	3.6
Poland	7	14.0 %	2.7	0.27
China	4	87.8 %	2.6	1.98
Ireland	4	28.8 %	3.6	3.46
Sweden	4	7.6 %	3.9	0.59
Finland	2	99.5 %	2.1	6.81
Germany	2	80.9 %	2.5	16.55
India	2	78.8 %	1.4	194.47
South Korea	2	31.7 %	6.3	0.83
Russian Federation	2	96.1%	3.3	124.95

Source: MUSO, Lumiere

Finally, Table 7 shows how many of the top 30 pirated films in each Member State were also in the top 30 for the EU as a whole. These figures provide an indication of the degree of homogeneity as regards the preferences for films among consumers of pirated content. The country with the preferences most aligned with the EU as a whole is the Czech Republic, where 25 of the top 30 films are also in the EU top 30. On the other hand, only 10 of the top 30 pirated films in Latvia are also in the EU top 30. Overall, the average for the 28 countries is 20.6, indicating a high degree of homogeneity of preferences.

Table 7. National top 30 in the top 30 EU28 most pirated films

	Country	Number of films among national top 30	% of total national piracy ⁽²⁵⁾
	EU28		49.4
AT	Austria	22	43.9
BE	Belgium	19	49.6
BG	Bulgaria	18	49.2
CY	Cyprus	19	42.5
CZ	Czech Republic	25	46.3
DE	Germany	20	54.4
DK	Denmark	24	45.7
EE	Estonia	21	40.2
EL	Greece	22	42.5
ES	Spain	20	41.7
FI	Finland	22	44.3
FR	France	21	53.5
HR	Croatia	21	41.8
HU	Hungary	23	45.2
IE	Ireland	20	43.2
IT	Italy	20	57.5
LT	Lithuania	15	35.8
LU	Luxembourg	21	46.7
LV	Latvia	10	31.1
MT	Malta	19	39.6
NL	Netherlands	23	44.5
PL	Poland	20	46.5
PT	Portugal	20	41.2
RO	Romania	23	43.0
SE	Sweden	23	45.0
SI	Slovenia	19	39.6
SK	Slovakia	23	43.6
UK	United Kingdom	23	44.8
	AVERAGE	20.6	

⁽²⁵⁾ This is the 'market share' of the piracy of the top films in the EU top 30 of each country's total piracy. For the EU as a whole, the top 30 films account for 49.4 % of total piracy in the EU of the 316 films studied.

5.2 TV Series

Table 8 shows the top 30 most pirated TV series in the EU28 in 2018. The amount of piracy (in millions) refers to the download of any episode of the series, even from different seasons if applicable. This is one of the reasons why the amount of piracy is greater than that suffered by films. The most pirated series *The Walking Dead* was pirated 10 times more often than the most pirated film, *Justice League*.

Table 8. Top 30 most pirated TV series in the EU, 2018

IMDb ID	Original title	Producing country	Piracy (Million)	MOVIEmeter ranking
1520211	The Walking Dead	United States	435.43	17
5171438	Star Trek: Discovery	United States	285.81	140
4158110	Mr. Robot	United States	263.85	190
2306299	Vikings	United States	233.00	25
5712554	The Grand Tour	United States	183.22	1 278
1844624	American Horror Story	United States	168.11	70
5691552	The Orville	United States	167.62	258
0898266	The Big Bang Theory	United States	153.61	53
0944947	Game of Thrones	United States	131.81	7
364845	NCIS	United States	125.13	68
2261227	Altered Carbon	United States	122.10	169
4016454	Supergirl	United States	115.43	55
3032476	Better Call Saul	United States	114.41	143
3205802	How to Get Away With Murder	United States	105.96	116
3107288	The Flash	United States	97.89	17
4052886	Lucifer	United States	96.27	56
1632701	Suits	United States	96.21	66
0157246	Will & Grace	United States	95.95	277
1378167	NCIS: Los Angeles	United States	90.80	68
1442437	Modern Family	United States	90.49	87
3749900	Gotham	United States	88.25	65
4574334	Stranger Things	United States	87.43	32
5164196	Lethal Weapon	United States	86.01	123
1843230	Once Upon a Time	United States	83.43	138
1796960	Homeland	United States	81.55	127
3560084	NCIS: New Orleans	United States	81.29	303
2193021	Arrow	United States	81.10	29
0121955	South Park	United States	79.67	294
3006802	Outlander	United States	79.25	79
0452046	Criminal Minds	United States	78.58	46

Source: MUSO

These figures are aligned with the results of the EUIPO (2019) study which showed that TV piracy was the most common type of piracy, accounting for 59 % of the total, followed by film (22 %) and music (19 %).

In TV series, piracy affects US productions even more than for film: all of the top 30 pirated TV series are US productions. It was not possible to compare the level of piracy with credible figures for

legal viewing in the European Union. Instead, the table shows a popularity indicator, the MOVIEmeter from Amazon's Internet Movie Database (IMDb).

The MOVIEmeter is a ranking of titles based on the number of pageviews from 250 million unique monthly visitors. The MOVIEmeter fluctuates from month to month, so that a 2018 TV series average was calculated for the table. Out of 30 most pirated TV series, only five are among the 30 most popular according to MOVIEmeter: *The Walking Dead*, *Vikings*, *Game of Thrones*, *The Flash* and *Arrow*. Thus, it appears that the preferences among consumers of pirated TV series are considerably more eclectic than those among consumers of pirated film.

Similarly to Table 6 above, Table 9 illustrates the degree to which consumers of pirated TV shows in each Member States have the same preferences as consumers of such content in the EU as a whole. As was the case with films, Latvian consumers have the lowest overlap with the EU as a whole, with 14 of the Latvian top 30 pirated TV shows also in the EU top 30, while Luxembourg, with 24 shows in its top 30 also in the EU top 30, was the country with the closest alignment of preference to the EU overall. The overall average was 18.6, indicating a less homogenous distribution of tastes among Member States than for film.

Table 9. National top 30 in the top 30 EU28 most pirated TV shows

	Country	Number of shows among national top 30	% of total national piracy ⁽²⁶⁾
	EU28		52.0
AT	Austria	19	48.8
BE	Belgium	20	56.8
BG	Bulgaria	17	45.3
CY	Cyprus	21	46.4
CZ	Czech Republic	18	48.8
DE	Germany	15	40.0
DK	Denmark	20	45.4
EE	Estonia	19	45.9
EL	Greece	23	45.5
ES	Spain	17	40.5
FI	Finland	18	48.0
FR	France	21	58.8
HR	Croatia	19	50.4
HU	Hungary	17	44.3
IE	Ireland	17	36.5
IT	Italy	20	62.0
LT	Lithuania	18	47.4
LU	Luxembourg	24	55.2
LV	Latvia	14	39.6
MT	Malta	18	42.1
NL	Netherlands	22	46.1
PL	Poland	18	49.2
PT	Portugal	16	43.7
RO	Romania	18	44.0
SE	Sweden	19	46.4
SI	Slovenia	19	40.8
SK	Slovakia	16	47.6
UK	United Kingdom	19	45.3
	AVERAGE	18.6	

5.3 Music

Table 10 shows the top 30 most pirated music artists in the EU28. Piracy has been grouped by artists, adding all piracy of their albums and tracks during the period studied. Instead of the 'producing country' concept used for films and TV series, the artist's country of origin, as it appears in the iTunes database, has been used.

The table also shows sales in millions of discs or singles for the top 10 selling artists according to IFPI statistics.

⁽²⁶⁾ See footnote 25 above.

Table 10. Top 30 most pirated music artists in the EU, 2018

iTunes ID	Artist	Country of origin	Piracy (Million)	Sales 2018 (Million)	Rank 2018	Sales 2017 (Million)	Rank 2017
183313439	Ed Sheeran	United Kingdom	7.46	29.7	1	40.6	1
102834	Luis Fonsi	Puerto Rico	6.29	11.8	2	24.3	2
217142	Ricky Martin	Puerto Rico	4.29				
336249253	Charlie Puth	United States	4.07			8.3	6
278873078	Bruno Mars	United States	3.61			10.7	4
159260351	Taylor Swift	United States	2.39			4.5	7
23203991	Arcade Fire	Canada	1.93				
889327	Shakira	Colombia	1.85				
147370	Neil Young	United States	1.66				
398128	Justin Timberlake	United States	1.64				
368183298	Kendrick Lamar	United States	1.45			9.6	5
464296584	Lana Del Rey	United States	1.25				
13493906	Sia	Australia	1.22				
1062085272	Alan Walker	Norway	1.17				
350720227	The Lumineers	United States	1.09				
580391756	The Chainsmokers	United States	1.06	10.0	3	20.5	3
262836961	Adele	United Kingdom	1.06				
280215834	Selena Gomez	United States	1.06				
471744	Coldplay	United Kingdom	1.06				
201955086	Calvin Harris	United Kingdom	1.03				
475902	Jamiroquai	United Kingdom	1.02				
479756766	The Weeknd	Canada	1.01				
6483093	The Killers	United States	0.99				
6596751	Franz Ferdinand	United Kingdom	0.94				
2715720	Kanye West	United States	0.93				
5557599	David Guetta	France	0.88				
487143	Pink Floyd	United Kingdom	0.85				
167649475	Portugal. The Man	United States	0.81				
78500	U2	Ireland	0.77			1.3	8
123853	Eric Clapton	United Kingdom	0.76				

Source: MUSO; IFPI

As was the case for films and TV series, artists with origin in the United States, 13, are the most pirated, followed by eight from the United Kingdom, two from Puerto Rico, two from Canada, one from Australia, one from Colombia and one from France.

The eight top sellers in 2017 are on list of the most pirated artists for the nine months of 2018 but only three of the top sellers in 2018 are on the list. Ed Sheeran and Luis Fonsi, in that order, are the artists who sold the most recordings in 2017 and 2018 and are also the most pirated. Thus, there are indications of a relationship between commercial success and piracy, although with a delay, since many of the best-selling musicians of 2017 were the most pirated in 2018.

Similarly to Tables 7 and 9 above, Table 11 illustrates the degree to which consumers of pirated music in each Member State have the same preferences as consumers of such content in the EU as a whole. This time, Finnish consumers of pirated music have the most eclectic preferences, with only nine of the artists on the top 30 list for Finland also in the top 30 for the EU. On the other hand, in Italy, 21 of the most popular artists among consumers of pirated music were on the EU top 30 list

as well. The overall average was 15.7, indicating a less homogenous distribution of tastes among Member States than for film or TV shows.

Table 11. National top 30 in the top 30 EU28 most pirated musicians

	Country	Number of artists among national top 30	% of total national piracy ⁽²⁷⁾
	EU28		49.8
AT	Austria	16	37.7
BE	Belgium	17	49.4
BG	Bulgaria	14	36.5
CY	Cyprus	13	47.7
CZ	Czech Republic	18	37.2
DE	Germany	16	41.4
DK	Denmark	13	40.1
EE	Estonia	14	43.7
EL	Greece	17	42.3
ES	Spain	20	56.1
FI	Finland	9	27.1
FR	France	19	46.4
HR	Croatia	13	39.8
HU	Hungary	14	55.0
IE	Ireland	13	42.7
IT	Italy	21	55.2
LT	Lithuania	14	41.2
LU	Luxembourg	16	69.4
LV	Latvia	15	35.7
MT	Malta	15	50.6
NL	Netherlands	19	49.5
PL	Poland	18	45.1
PT	Portugal	17	43.6
RO	Romania	20	46.4
SE	Sweden	15	33.5
SI	Slovenia	12	44.8
SK	Slovakia	13	41.1
UK	United Kingdom	18	42.2
	AVERAGE	15.7	

⁽²⁷⁾ See footnote 25 above.

6 CONCLUSIONS AND DIRECTION FOR FURTHER RESEARCH

This study has examined the phenomenon of piracy of film, TV series and music, looking at actual consumer behaviour, as evidenced by the data on access to illicit content provided by MUSO and juxtaposing this data with data on licit consumptions from sources such as the European Audiovisual Observatory.

Piracy of film, television and music seems to be driven by demand: consumers who recognise the works and want to enjoy them, in some cases illicitly; but also the suppliers of pirated content who seek to maximise profits by pirating the most commercially successful works as well as works that are not accessible to consumers in some countries where there may still be an interest in those works. The latter is shown by the amount of piracy in the markets where a particular film has not been released. These results underscore the importance of legal accessibility as one of the ways in which consumption of pirated content can be reduced.

The most frequently pirated works are quite similar across the Member States, especially in the case of film, and to a somewhat lesser degree in the case of TV series and especially music, where tastes seem somewhat more local.

Commercial success is linked to piracy. In general, the films with the most admissions in cinemas are also the most pirated. The data also indicates that this is also true for musicians. However the study is not conclusive on this point as regards TV shows. There is little correlation between piracy and the popularity of a TV series, as measured by the IMDb ranking. Certainly, the phenomenon of piracy of TV shows warrants further study, not least because TV is the type of audiovisual content that suffers the most piracy.

Notwithstanding the link between commercial success and piracy, especially for films, films addressed to a more specialised audience are also pirated, and the relative impact on their producers may be even greater than that for producers of blockbusters. A recent example is a documentary by Danish director Jesper Jargil, *De Ydmygede*, which was uploaded to YouTube without authorisation and garnered more than 14 million views on the platform before being removed⁽²⁸⁾. This example also illustrates the point that the MUSO data on which the present study is based is a compilation of accesses to web sites dedicated to providing pirated content; however, such content is also available on web sites that are not dedicated to piracy but are repositories of user-generated content.

⁽²⁸⁾ The episode is described in the Danish film magazine Ekko, accessible at: <https://www.ekkofilm.dk/artikler/frastjalet-min-film-fjorten-millioner-gange/>

Other factors that influence piracy include the geographic breadth of a work's release, i.e. the availability of a legal offer, and physical and cultural proximity of the film in question, something that is corroborated by the literature reviewed in Section 3.

In relative terms, works produced in the US suffer no more piracy than similar works produced elsewhere; however, given the popularity of US films and TV shows, in absolute terms they are pirated the most, mirroring their position in the legal marketplace.

More detailed studies of TV and music piracy would be facilitated by the availability of reliable sources of data on legal consumption, of the same quality as the Lumiere database for film. Furthermore, more and more films are not released in cinemas but directly to video on demand. The Audiovisual Observatory plans to start reporting on this type of release, which would allow for a more in-depth analysis of film piracy and legal offer.

7 ANNEX: REGRESSION MODELS

Table 12 below shows the regression model presented in Section 5 (model 1) as well as four alternative model specifications.

The main criterion for model selection was the Variance Inflation Factor (VIF) which measures how much the variance of the regression coefficient is inflated due to multicollinearity in the model. Only models with VIF less than five were considered. The Bayesian Information Criterion (BIC) was also used to avoid overfitting: lower BIC is preferred.

In models 2 and 3, a variable was eliminated since they are linked: many co-productions have US producers. In model 4, the country dummies were eliminated and a population variable was included that only partially captures the country effect since an elasticity different than one is observed. Country dummies 'absorb' population differences, different propensities to piracy but also potential biases in observing admissions and piracy.

For these reasons, Model one was chosen. However, the specification is quite robust, as shown by the similar coefficients and goodness-of-fit statistics across the first three models.

Table 12. Regression models

	Dependent variable:				
	log(piracy)			log(piracy/population)	
	(1)	(2)	(3)	(4)	(5)
(intercept)	10.747***	10.678***	10.554***	2.478***	0.734***
log(population)				0.546***	
log(admissions)	0.374***	0.369***	0.369***	0.335***	
log(admissions/population)					0.374***
released	-3.294***	-3.266***	-3.305***	-2.915***	-3.294***
prod_before2017	-0.873***	-0.878***	-0.852***	-0.824***	-0.873***
anime	-0.667***	-0.669***	-0.729***	-0.638***	-0.667***
domestic	-0.457***	-0.422***	-0.526***	-0.498***	-0.457***
coproduction	-0.290***	-0.257***		-0.273***	-0.290***
US_producer	-0.091*		0.068	-0.060	-0.091*
prod2018	-1.046***	-1.040***	-1.006***	-1.029***	-1.046***
BE	1.700***	1.695***	1.685***		1.539***
BG	-0.514***	-0.519***	-0.526***		-0.374***
CZ	-0.113	-0.113	-0.117		-0.228**
DE	0.643***	0.650***	0.654***		-0.759***
DK	-0.657***	-0.658***	-0.657***		-0.392***
EE	-0.382***	-0.386***	-0.388***		0.808***
EL	1.741***	1.741***	1.740***		1.618***
ES	0.211*	0.219*	0.224*		-0.832***
FI	-0.585***	-0.587***	-0.591***		-0.290**
FR	1.825***	1.832***	1.840***		0.556***
HR	0.236**	0.229**	0.215*		0.715***
HU	0.227**	0.228**	0.227*		0.163
IT	2.117***	2.125***	2.129***		0.911***
LT	-0.227*	-0.232**	-0.234**		0.490***
LV	0.970***	0.963***	0.958***		1.920***
NL	0.887***	0.893***	0.895***		0.470***
PL	2.099***	2.103***	2.104***		1.185***
PT	0.640***	0.644***	0.646***		0.544***
RO	1.977***	1.978***	1.974***		1.480***
SI	-0.157	-0.163	-0.167		0.752***
SK	-1.054***	-1.057***	-1.058***		-0.752***
UK	1.611***	1.617***	1.638***		0.349***
Observations	3,231	3,231	3,231	3,231	3,231
R ²	0.692	0.692	0.687	0.492	0.561
Bayesian Inf. Crit.	9,114	9,110	9,159	10,567	9,114
Variance Inf. Fact.	3.252	3.248	3.199	1.968	2.529

Note: * significant at 90%; ** significant at 95%; *** significant at 99% confidence level

In the case of a dependent variable with log, the coefficients (δ_i) for the dummy variables need correction⁽²⁹⁾ for interpretation, according to the following formula:

$$e^{\hat{\delta}_i} - 1$$

These represent the % change in piracy if the condition is met (that is, the dummy variable in question takes on value 1), comparing with films that do not meet the condition. They may be termed semi-elasticities of piracy with respect to the relevant variable.

Table 13 presents the elasticity and semi-elasticities for the coefficients which are significant at least at the 10 % level.

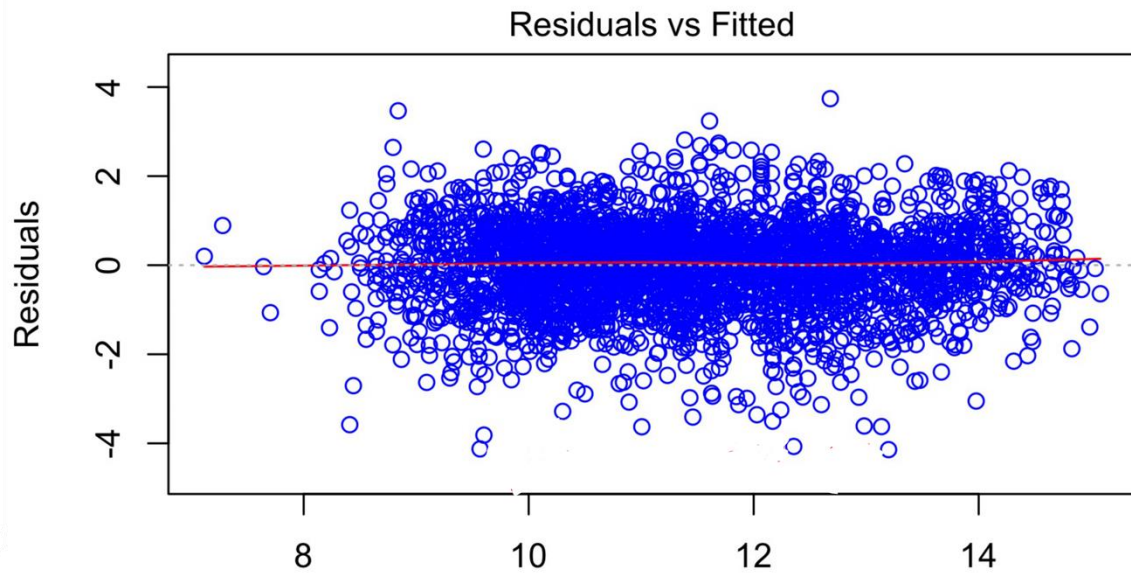
Table 13. Corrected regression coefficients for interpretation

	Models			
	(1)	(2)	(3)	(4)
	piracy elasticity			
admissions	0.374	0.369	0.369	0.335
	piracy semi-elasticity (%)			
released	-96.29	-96.18	-96.33	-94.58
prod_before2017	-58.23	-58.44	-57.35	-56.12
anime	-48.69	-48.76	-51.76	-47.18
domestic	-36.71	-34.42	-40.89	-39.25
coproduction	-25.16	-22.69		-23.88
US_producer	-8.71			

Figure 3 shows the plot of the Residual versus Fitted for model 1, exhibiting a fairly random pattern.

⁽²⁹⁾ See Wooldridge, Jeffrey M. (2012). Introductory econometrics: a modern approach, Chapter 7.2 A single dummy independent variable.

Figure 3. Residual vs Fitted, model 1



$$\log(\text{piracy}) = \beta_0 + \beta_1 \log(\text{admissions}) + \partial_1 \text{released} + \partial_2 \text{prod_before2017} + \partial_3 \text{anime} + \partial_4 \text{domestic} + \partial_5 \text{coproduction} + \partial_6 \text{US_producer} + \partial_7 \text{prod2018} + \sum_{i \in \text{EU23}} \kappa_i \text{country}_i + u$$

1

8 ANNEX: LUMIERE DATA BASE SOURCES

National Data sources of Lumiere for admissions and box office

Country	Source	Observations
AT	Austria Österreichisches Filminstitut – ÖFI MEDIA sub-programme of Creative Europe ⁽³⁰⁾ Other independent Sources	As a result of the data submitted by ÖFI, the LUMIERE database generally achieves a coverage rate of over 95 % since 2004.
BE	Belgium Le Moniteur du Film en Belgique – MFB MEDI sub-programme of Creative Europe	Some distributors' figures include admissions in the Grand Duchy of Luxembourg.
BG	Bulgaria Bulgarian National Film Center (NFC) Other Sources	As a result of the gradual privatisation of cinemas since the early 1990s, the Bulgarian National Film Centre is no longer able to monitor all admissions. The only information available concerns admissions to public cinemas, which now have only a very small market share. This information (available from 1997 onwards) shows box office receipts and admissions for Cypriot films, the top 10 European films and the top 10 international films shown in cinemas in Cyprus.
CY	Cyprus Press and Information Office – PIO MEDIA sub-programme of Creative Europe	LUMIERE's coverage rate for Cyprus in 1997 and 1998 is between 35 % and 38 %.
CZ	Czech Republic Unie Filmovych Distributoru – UFD	LUMIERE's coverage rate between 1997 and 1999 varies between 51 % and 53 %.
DE	Germany Filmförderungsanstalt – FFA MEDIA sub-programme of Creative Europe Spitzenorganisation der Filmwirtschaft – SPIO AC Nielsen – EDI	LUMIERE offers an excellent coverage rate of between 87 % and 93 %.
DK	Denmark Det Danske Filminstitutet – Danish Film Institute – DFI MEDIA sub-programme of Creative Europe	Minor discrepancies with DFI data is possible. The DFI sends its full list of results to the Observatory, which means that the LUMIERE database boasts a coverage rate of almost 100 %.
EE	Estonia Estonian Film Foundation and distributors	
EL	Greece Greek Film Centre MEDIA sub-programme of Creative Europe Distributors	The LUMIERE database has a coverage rate of between 5 and 38 %.
ES	Spain Instituto de la Cinematografía y de las Artes Audiovisuales – ICAA MEDIA sub-programme of Creative Europe	The database's coverage rate is highly satisfactory, consistently exceeding 95 %.
FI	Finland Suomen Elokuvasäätiö / Finnish Film Foundation (FFF) MEDIA sub-programme of Creative Europe	The LUMIERE database gives coverage of almost 100 % for each year since 2003.
FR	France Centre national de la cinématographie – CNC Le Film français Cine Box Office Écran total AC Nielsen – EDI Variety	LUMIERE's coverage rate for ticket sales in France varies between 93 % and 96 %. Data is taken from three different sources: CNC, the Programme MEDIA and Le Film français.
HR	Croatia No data	
HU	Hungary Magyarországi Filmforgalmazók Egyesülete – Association of Hungarian Film Distributors	Using this data, the LUMIERE database has a coverage rate of between 88 % and 93 %.

⁽³⁰⁾ Data on admissions to non-national European films distributed in Spain, submitted by distributors to the MEDIA sub-programme, are available since 1996. Discrepancies with other databases is possible.

National Data sources of Lumiere for admissions and box office

Country	Source	Observations
IE	Ireland MEDIA sub-programme of Creative Europe AC Nielsen – EDI Screen International	Consequently, the LUMIERE database has a very poor coverage rate (between 0.1 % and 7 %).
IT	Italy Società Italiana degli Autori e Editori – SIAE MEDIA sub-programme of Creative Europe CINETEL AC Nielsen - EDI	The LUMIERE database coverage rate for admissions to films distributed in Italy is approximately 65 %, well below the average European Union rate of around 85 %.
LT	Lithuania No data	
LU	Luxembourg National Audiovisual Centre – CAN MEDIA sub-programme of Creative Europe	The LUMIERE database has a coverage rate of between 40 % and 50 %.
LV	Latvia Latvian National Film Centre Distributors	
MT	Malta No data	
NL	Netherlands Nederlandse Federatie voor de Cinematografie (NFC) MEDIA sub-programme of Creative Europe	As a result of the data submitted by the NFC, the LUMIERE database boasts a coverage rate of almost 100 %.
PL	Poland Ministry of Culture, Film and Audiovisual Media Department	The rate of coverage of total Polish admissions in the LUMIERE database is of around 92 %.
PT	Portugal Film & Audiovisual Institute (Instituto do Cinema e do Audiovisual – ICA)	
RO	Romania Centrul Național al Cinematografiei – CNC	The LUMIERE database has a coverage rate of almost 100 %.
SE	Sweden Svenska Filminstitutet – SFI MEDIA sub-programme of Creative Europe	The coverage rate obtained from the SFI is around 90%.
SI	Slovenia Slovenski filmski center Slovenian Film Center – FSC	LUMIERE has a coverage rate of between 36% and 96% for Slovenia.
SK	Slovakia Slovenski filmski center – Slovenian Film Center – FSC	LUMIERE has a coverage rate of between 36% and 96% for Slovenia.
UK	United Kingdom British Film Institute – BFI AC Nielsen – EDI Screen Finance MEDIA sub-programme of Creative Europe Screen International	Cinema admissions in Great Britain are not monitored by any official or professional body.

9 ANNEX: TOP 30 MOST PIRATED FILMS BY COUNTRY

Top 30 most pirated films in Austria

(*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
73392	A Ghost Story	2017	US	2	13	305
72860	Jumanji: Welcome to the Jungle	2017	US	326	3 148	237
72550	Wonder Woman	2017	US CN HK	251	2 600	234
72589	Kingsman: The Golden Circle	2017	UK* US	121	1 169	229
72536	Justice League	2017	US	105	1 148	215
72535	Thor: Ragnarok	2017	US	212	2 352	206
72596	Atomic Blonde	2017	US SE	34	313	191
72530	Blade Runner 2049	2017	US UK HU CA	101	1 115	188
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	527	6 230	188
72542	Spider-Man: Homecoming	2017	US	150	1 524	185
72540	The Fate of the Furious	2017	US CN JP	441	3 880	184
72541	Dunkirk	2017	UK* US FR NL	95	896	178
72549	Cars 3	2017	US	187	1 553	174
72537	Guardians of the Galaxy Vol. 2	2017	US	293	3 153	173
72526	It	2017	US CA	334	3 356	172
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	320	3 321	166
73405	The Disaster Artist	2017	US	4	29	165 *
72557	War for the Planet of the Apes	2017	US	105	1 116	164
72565	Valerian and the City of a Thousand Planets	2017	FR CN US DE AE	112	1 168	164
74751	The Shape of Water	2017	US	59	507	161
74915	Three Billboards Outside Ebbing, Missouri	2017	US UK	76	639	160 *
72561	American Made	2017	US	59	567	159 *
72623	Get Out	2017	US JP	24	203	159 *
74753	Downsizing	2017	US	39	344	158 *
72905	The Foreigner	2017	UK* US CN			155
72499	Despicable Me 3	2017	US	505	4 285	151 *
77583	Deadpool 2	2018	US	301	2 952	150
67790	Suicide Squad	2016	US	272	2 877	145
74124	Darkest Hour	2017	UK US	59	502	136 *
70908	Zashchitniki	2017	RU			128 *

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Belgium
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
72860	Jumanji: Welcome to the Jungle	2017	US	399	3 392	2 956
72536	Justice League	2017	US	148	900	2 569
72589	Kingsman: The Golden Circle	2017	UK* US			2 408
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	729	1 694	2 091
72542	Spider-Man: Homecoming	2017	US			1 880
72568	Coco	2017	US			1 847
72526	It	2017	US CA			1 777
72549	Cars 3	2017	US			1 741
76435	Fifty Shades Freed	2018	US	455	4 260	1 717 *
72540	The Fate of the Furious	2017	US CN JP			1 592
72541	Dunkirk	2017	UK* US FR NL	398	3 453	1 542
72557	War for the Planet of the Apes	2017	US			1 532
72535	Thor: Ragnarok	2017	US	225	1 919	1 507
72550	Wonder Woman	2017	US CN HK			1 483
72922	Pitch Perfect 3	2017	US	142	700	1 394 *
72596	Atomic Blonde	2017	US SE			1 384
72581	xXx: Return of Xander Cage	2017	US CN CA			1 310 *
72905	The Foreigner	2017	UK* US CN	43	280	1 247
77620	Maze Runner: The Death Cure	2018	US	290	2 686	1 220 *
72594	Baby Driver	2017	UK* US			1 069
67790	Suicide Squad	2016	US	276	2 298	1 062
72561	American Made	2017	US			1 005 *
72546	Logan	2017	US			976
72531	Transformers: The Last Knight	2017	US CN			946 *
72562	Jigsaw	2017	US CA	116	894	945 *
72584	Baywatch	2017	US CN UK			877 *
72651	Flatliners	2017	US CA	26	8	849 *
72500	Fifty Shades Darker	2017	US CN	474	4 067	832 *
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US			831
72556	Ferdinand	2017	US	311	1 512	817 *

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Bulgaria
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	262	1 452	327
72589	Kingsman: The Golden Circle	2017	UK* US	45	212	278
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	181	958	272
72499	Despicable Me 3	2017	US	187	821	242 *
72541	Dunkirk	2017	UK* US FR NL	36	164	201
74751	The Shape of Water	2017	US	8	38	194
72526	It	2017	US CA	86	375	188
72565	Valerian and the City of a Thousand Planets	2017	FR CN US DE AE	48	237	187
72905	The Foreigner	2017	UK* US CN			166
72616	American Assassin	2017	US	13	58	146 *
72557	War for the Planet of the Apes	2017	US	32	167	136
72550	Wonder Woman	2017	US CN HK	88	475	135
72536	Justice League	2017	US	68	371	124
72564	The Circle	2017	US AE	16	73	114
72535	Thor: Ragnarok	2017	US	113	627	110
74124	Darkest Hour	2017	UK US	16	77	110 *
72537	Guardians of the Galaxy Vol. 2	2017	US	64	353	104
72592	John Wick: Chapter 2	2017	US HK	39	168	99 *
72139	The Mummy	2017	US CN	81	429	99 *
72860	Jumanji: Welcome to the Jungle	2017	US	158	795	90
72584	Baywatch	2017	US CN UK	91	370	84 *
72578	The Snowman	2017	UK* US SE	19	86	83 *
72648	A Bad Moms Christmas	2017	US CN	48	217	83 *
72602	Geostorm	2017	US	58	314	82 *
70908	Zashchitniki	2017	RU	12	49	82 *
73392	A Ghost Story	2017	US			78
72542	Spider-Man: Homecoming	2017	US	55	285	78
72596	Atomic Blonde	2017	US SE	19	86	78
72556	Ferdinand	2017	US	111	502	74 *
79946	Hangman	2017	US			70 *

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Cyprus
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
72860	Jumanji: Welcome to the Jungle	2017	US			166
73392	A Ghost Story	2017	US			145
72550	Wonder Woman	2017	US CN HK			124
72535	Thor: Ragnarok	2017	US			114
72542	Spider-Man: Homecoming	2017	US			107
72549	Cars 3	2017	US			102
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US			101
72540	The Fate of the Furious	2017	US CN JP			99
72536	Justice League	2017	US			95
72589	Kingsman: The Golden Circle	2017	UK* US			93
72905	The Foreigner	2017	UK* US CN			85
72596	Atomic Blonde	2017	US SE			83
72537	Guardians of the Galaxy Vol. 2	2017	US			82
74753	Downsizing	2017	US			81 *
72541	Dunkirk	2017	UK* US FR NL			80
72557	War for the Planet of the Apes	2017	US			79
77583	Deadpool 2	2018	US			78
67790	Suicide Squad	2016	US			76
77575	Avengers: Infinity War	2018	US			73
73362	Girls Trip	2017	US			73 *
79023	Annihilation	2018				72 *
72546	Logan	2017	US			72
72923	Stronger	2017	US			67 *
72531	Transformers: The Last Knight	2017	US CN			66 *
70908	Zashchitniki	2017	RU			62 *
77598	Tomb Raider	2018	US UK			58 *
72561	American Made	2017	US			57 *
72872	Logan Lucky	2017	US			57 *
74915	Three Billboards Outside Ebbing, Missouri	2017	US UK			56 *
77656	Death Wish	2018	US			55 *

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Czech Republic
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
72535	Thor: Ragnarok	2017	US	437	2 593	294
72536	Justice League	2017	US	157	907	275
73392	A Ghost Story	2017	US			257
72589	Kingsman: The Golden Circle	2017	UK* US	110	614	230
72550	Wonder Woman	2017	US CN HK	187	1 059	221
72537	Guardians of the Galaxy Vol. 2	2017	US	287	1 647	197
72596	Atomic Blonde	2017	US SE	20	108	197
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	508	3 096	195
72542	Spider-Man: Homecoming	2017	US	201	1 113	195
72549	Cars 3	2017	US	202	1 001	182
72546	Logan	2017	US	190	1 053	179
77583	Deadpool 2	2018	US	342	2 082	177
72860	Jumanji: Welcome to the Jungle	2017	US	445	2 533	173
72526	It	2017	US CA	237	1 323	169
72541	Dunkirk	2017	UK* US FR NL	258	1 451	168
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	571	3 163	155
72565	Valerian and the City of a Thousand Planets	2017	FR CN US DE AE	99	523	153
77575	Avengers: Infinity War	2018	US	631	3 900	147
72530	Blade Runner 2049	2017	US UK HU CA	119	722	147
70908	Zashchitniki	2017	RU	3	12	137 *
72905	The Foreigner	2017	UK* US CN			135
72561	American Made	2017	US	53	299	131 *
67790	Suicide Squad	2016	US	273	1 476	130
72557	War for the Planet of the Apes	2017	US	67	387	128
74915	Three Billboards Outside Ebbing, Missouri	2017	US UK	66	319	128 *
72564	The Circle	2017	US AE	33	174	115
74751	The Shape of Water	2017	US	39	210	112
74124	Darkest Hour	2017	UK US	88	441	109 *
72562	Jigsaw	2017	US CA	54	294	107 *
72568	Coco	2017	US	300	1 478	105

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Germany
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
72564	The Circle	2017	US AE	585	-	13 527
72541	Dunkirk	2017	UK* US FR NL	750	-	1 447
72552	Paddington 2	2017	UK FR	1 970	-	1 315 *
77626	Pacific Rim: Uprising	2018	US UK JP CN	425	-	1 002 *
72535	Thor: Ragnarok	2017	US	1 488	-	807
72550	Wonder Woman	2017	US CN HK	1 561	-	714
72905	The Foreigner	2017	UK* US CN			699
72536	Justice League	2017	US	631	-	697
72557	War for the Planet of the Apes	2017	US	782	-	652
72860	Jumanji: Welcome to the Jungle	2017	US	2 009	-	590
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	5 906	-	580
72869	The House	2017	US	8	-	572 *
72542	Spider-Man: Homecoming	2017	US	1 007	-	565
72549	Cars 3	2017	US	1 320	-	555
72565	Valerian and the City of a Thousand Planets	2017	FR CN US DE AE	1 057	-	545
72561	American Made	2017	US	329	-	539 *
72548	Kong: Skull Island	2017	US CN	878	-	529
72526	It	2017	US CA	3 168	-	527
72139	The Mummy	2017	US CN	675	-	527 *
72596	Atomic Blonde	2017	US SE	280	-	522
77575	Avengers: Infinity War	2018	US	3 399	-	512
72530	Blade Runner 2049	2017	US UK HU CA	969	-	502
72589	Kingsman: The Golden Circle	2017	UK* US	1 027	-	497
72602	Geostorm	2017	US	259	-	490 *
72537	Guardians of the Galaxy Vol. 2	2017	US	2 514	-	488
67854	Sing	2016	US JP	2 476	-	459 *
72499	Despicable Me 3	2017	US	4 651	-	445 *
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	2 693	-	440
72616	American Assassin	2017	US	176	-	416 *
72576	The Dark Tower	2017	US	372	-	407 *

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Denmark
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
73392	A Ghost Story	2017	US			185
72860	Jumanji: Welcome to the Jungle	2017	US	304	3 605	145
72536	Justice League	2017	US	100	1 190	145
72550	Wonder Woman	2017	US CN HK	237	3 320	139
72535	Thor: Ragnarok	2017	US	191	2 496	135
72537	Guardians of the Galaxy Vol. 2	2017	US	205	2 993	127
72589	Kingsman: The Golden Circle	2017	UK* US	110	1 516	125
72549	Cars 3	2017	US	214	2 420	123
77583	Deadpool 2	2018	US	294	3 903	121
72542	Spider-Man: Homecoming	2017	US	161	2 144	111
70908	Zashchitniki	2017	RU			105 *
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	583	9 447	104
72596	Atomic Blonde	2017	US SE	17	204	102
77575	Avengers: Infinity War	2018	US	364	5 712	92
74753	Downsizing	2017	US	18	218	87 *
72526	It	2017	US CA	243	3 278	86
72546	Logan	2017	US	174	2 234	84
72905	The Foreigner	2017	UK* US CN	21	249	84
72565	Valerian and the City of a Thousand Planets	2017	FR CN US DE AE	55	766	83
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	249	3 405	82
72557	War for the Planet of the Apes	2017	US	85	1 199	81
74915	Three Billboards Outside Ebbing, Missouri	2017	US UK	231	2 123	75 *
74751	The Shape of Water	2017	US	98	1 143	71
72564	The Circle	2017	US AE			70
72531	Transformers: The Last Knight	2017	US CN	60	914	70 *
72562	Jigsaw	2017	US CA	49	586	69 *
72530	Blade Runner 2049	2017	US UK HU CA	192	2 987	68
72540	The Fate of the Furious	2017	US CN JP	276	3 763	67
72541	Dunkirk	2017	UK* US FR NL	304	3 898	66
72139	The Mummy	2017	US CN	56	725	63 *

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Estonia
(*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
72535	Thor: Ragnarok	2017	US	40	271	112
72860	Jumanji: Welcome to the Jungle	2017	US	37	232	110
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	107	662	96
72549	Cars 3	2017	US	83	391	91
72536	Justice League	2017	US	23	154	88
72905	The Foreigner	2017	UK* US CN	8	49	87
72530	Blade Runner 2049	2017	US UK HU CA	30	213	85
73392	A Ghost Story	2017	US			83
72541	Dunkirk	2017	UK* US FR NL	27	170	79
72537	Guardians of the Galaxy Vol. 2	2017	US	38	262	79
72589	Kingsman: The Golden Circle	2017	UK* US			78
72872	Logan Lucky	2017	US	5	27	76 *
72550	Wonder Woman	2017	US CN HK	52	296	76
72542	Spider-Man: Homecoming	2017	US	30	176	75
74753	Downsizing	2017	US	12	68	74 *
72526	It	2017	US CA	46	279	73
72557	War for the Planet of the Apes	2017	US	23	129	72
72565	Valerian and the City of a Thousand Planets	2017	FR CN US DE AE	18	0	70
72561	American Made	2017	US	29	182	69 *
72596	Atomic Blonde	2017	US SE	13	79	69
72602	Geostorm	2017	US	21	136	68 *
67790	Suicide Squad	2016	US			65
72540	The Fate of the Furious	2017	US CN JP	83	485	64
70908	Zashchitniki	2017	RU	4	21	64 *
72499	Despicable Me 3	2017	US	149	705	63 *
72531	Transformers: The Last Knight	2017	US CN	29	186	63 *
79023	Annihilation	2018				63 *
77575	Avengers: Infinity War	2018	US	65	440	61
74915	Three Billboards Outside Ebbing, Missouri	2017	US UK	34	207	59 *
77583	Deadpool 2	2018	US	66	416	58

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Greece
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
73392	A Ghost Story	2017	US			2 337
72550	Wonder Woman	2017	US CN HK	251	0	1 558
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	310	0	1 416
72549	Cars 3	2017	US	176	0	1 416
72596	Atomic Blonde	2017	US SE	34	0	1 255
72540	The Fate of the Furious	2017	US CN JP	305	0	1 211
72860	Jumanji: Welcome to the Jungle	2017	US	79	0	1 203
72536	Justice League	2017	US	158	0	1 162
72542	Spider-Man: Homecoming	2017	US	128	0	1 146
72535	Thor: Ragnarok	2017	US	166	0	1 053
72541	Dunkirk	2017	UK* US FR NL	201	0	1 050
72905	The Foreigner	2017	UK* US CN	34	0	1 025
72589	Kingsman: The Golden Circle	2017	UK* US	52	0	1 015
72537	Guardians of the Galaxy Vol. 2	2017	US	84	0	956
72546	Logan	2017	US	190	0	954
67790	Suicide Squad	2016	US			953
74915	Three Billboards Outside Ebbing, Missouri	2017	US UK	112	0	928 *
74124	Darkest Hour	2017	UK US	121	0	922 *
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	299	0	907
72578	The Snowman	2017	UK* US SE	162	0	904 *
72499	Despicable Me 3	2017	US	308	0	884 *
72923	Stronger	2017	US	6	0	827 *
72557	War for the Planet of the Apes	2017	US	52	0	827
74751	The Shape of Water	2017	US	101	0	808
70908	Zashchitniki	2017	RU			760 *
72500	Fifty Shades Darker	2017	US CN	260	0	720 *
72531	Transformers: The Last Knight	2017	US CN	45	0	719 *
72526	It	2017	US CA	262	0	707
77583	Deadpool 2	2018	US	222	0	704
72594	Baby Driver	2017	UK* US	28	0	704

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Spain
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
72139	The Mummy	2017	US CN	1 391	8 420	2 481 *
72549	Cars 3	2017	US	1 261	6 920	1 504
72568	Coco	2017	US	3 824	22 391	1 410
72550	Wonder Woman	2017	US CN HK	2 369	14 653	806
73392	A Ghost Story	2017	US	9	59	766
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	4 114	26 107	537
72526	It	2017	US CA	1 793	11 272	493
72584	Baywatch	2017	US CN UK	404	2 284	478 *
72535	Thor: Ragnarok	2017	US	1 437	8 950	471
77621	Rampage	2018	US	451	2 802	466 *
72596	Atomic Blonde	2017	US SE	308	1 793	465
72594	Baby Driver	2017	UK* US	451	2 616	464
72536	Justice League	2017	US	1 058	6 881	463
72542	Spider-Man: Homecoming	2017	US	1 747	9 900	443
77583	Deadpool 2	2018	US	1 511	9 277	427
74751	The Shape of Water	2017	US	1 526	9 415	409
72589	Kingsman: The Golden Circle	2017	UK* US	707	4 141	396
72564	The Circle	2017	US AE	324	1 596	395
72616	American Assassin	2017	US	118	724	375 *
72530	Blade Runner 2049	2017	US UK HU CA	1 190	7 105	365
72860	Jumanji: Welcome to the Jungle	2017	US	3 143	18 510	356
74915	Three Billboards Outside Ebbing, Missouri	2017	US UK	999	6 238	346 *
72556	Ferdinand	2017	US	2 579	14 495	345 *
74034	Call Me by Your Name	2017	IT FR BR US	153	943	336 *
72541	Dunkirk	2017	UK* US FR NL	1 434	9 026	332
84305	Edge of Fear	2018				331 *
72537	Guardians of the Galaxy Vol. 2	2017	US	1 667	9 240	314
77575	Avengers: Infinity War	2018	US	3 447	20 443	310
72593	The Greatest Showman	2017	US	2 133	12 741	281 *
74124	Darkest Hour	2017	UK US	241	1 500	279 *

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Finland
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
72860	Jumanji: Welcome to the Jungle	2017	US	105	1 137	163
72535	Thor: Ragnarok	2017	US	97	1 139	135
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	467	5 877	133
72589	Kingsman: The Golden Circle	2017	UK* US	75	867	132
72537	Guardians of the Galaxy Vol. 2	2017	US	123	1 384	125
72542	Spider-Man: Homecoming	2017	US	89	1 006	120
73392	A Ghost Story	2017	US			115
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	308	3 602	115
67790	Suicide Squad	2016	US	196	2 339	114
72536	Justice League	2017	US	41	511	110
77583	Deadpool 2	2018	US	200	2 362	105
72526	It	2017	US CA	183	2 168	103
72550	Wonder Woman	2017	US CN HK	149	1 669	102
72540	The Fate of the Furious	2017	US CN JP	180	2 053	99
70908	Zashchitniki	2017	RU			99 *
72546	Logan	2017	US	94	1 053	97
77575	Avengers: Infinity War	2018	US	234	2 825	97
74753	Downsizing	2017	US	10	106	94 *
72549	Cars 3	2017	US	168	1 735	94
72562	Jigsaw	2017	US CA	32	379	92 *
72592	John Wick: Chapter 2	2017	US HK	37	381	90 *
72596	Atomic Blonde	2017	US SE	13	142	88
72530	Blade Runner 2049	2017	US UK HU CA	134	1 711	79
72531	Transformers: The Last Knight	2017	US CN	41	474	74 *
72905	The Foreigner	2017	UK* US CN	5	51	72
72541	Dunkirk	2017	UK* US FR NL	118	1 405	70
72561	American Made	2017	US	31	349	70 *
72656	All Eyez on Me	2017	US	18	184	70 *
72565	Valerian and the City of a Thousand Planets	2017	FR CN US DE AE	38	432	68
72557	War for the Planet of the Apes	2017	US	37	407	67

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in France
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
72536	Justice League	2017	US	1 714	0	10 476
72860	Jumanji: Welcome to the Jungle	2017	US	624	0	8 745
72589	Kingsman: The Golden Circle	2017	UK* US	1 763	0	7 768
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	2 604	0	7 403
72535	Thor: Ragnarok	2017	US	2 503	0	7 173
72542	Spider-Man: Homecoming	2017	US	2 320	0	7 139
76435	Fifty Shades Freed	2018	US	2 768	0	6 390 *
72568	Coco	2017	US	4 026	0	6 291
72526	It	2017	US CA	2 233	0	5 245
72541	Dunkirk	2017	UK* US FR NL	2 554	0	5 092
72549	Cars 3	2017	US	2 766	0	5 085
72557	War for the Planet of the Apes	2017	US	2 884	0	5 004
72550	Wonder Woman	2017	US CN HK	4 325	0	4 606
72540	The Fate of the Furious	2017	US CN JP	3 862	0	4 520
72561	American Made	2017	US	660	0	3 897 *
77620	Maze Runner: The Death Cure	2018	US	2 847	0	3 727 *
72905	The Foreigner	2017	UK* US CN	159	0	3 485
72581	xXx: Return of Xander Cage	2017	US CN CA	928	0	3 447 *
55928	Avengers: Age of Ultron	2015	US	4 326		3 426
72596	Atomic Blonde	2017	US SE	442	0	3 412
72594	Baby Driver	2017	UK* US	838	0	3 006
72556	Ferdinand	2017	US	456	0	2 994 *
72546	Logan	2017	US	2 333	0	2 917
72584	Baywatch	2017	US CN UK	1 591	0	2 878 *
67790	Suicide Squad	2016	US			2 802
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	3 676	0	2 664
77610	Black Panther	2018	US	3 688	0	2 597
72500	Fifty Shades Darker	2017	US CN	3 140	0	2 533 *
72562	Jigsaw	2017	US CA	537	0	2 505 *
72696	Detroit	2017	US	358	0	2 473 *

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Croatia
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
73392	A Ghost Story	2017	US			331
72550	Wonder Woman	2017	US CN HK	104	452	223
72589	Kingsman: The Golden Circle	2017	UK* US	39	168	219
72596	Atomic Blonde	2017	US SE	30	120	213
77583	Deadpool 2	2018	US			209
72860	Jumanji: Welcome to the Jungle	2017	US	96	438	206
72535	Thor: Ragnarok	2017	US	80	363	186
72549	Cars 3	2017	US	62	216	183
72536	Justice League	2017	US	67	322	179
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	165	839	172
72537	Guardians of the Galaxy Vol. 2	2017	US	55	257	161
72565	Valerian and the City of a Thousand Planets	2017	FR CN US DE AE	71	279	157
72540	The Fate of the Furious	2017	US CN JP	125	569	152
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	76	336	151
72542	Spider-Man: Homecoming	2017	US	63	252	150
72872	Logan Lucky	2017	US	14	53	145 *
72648	A Bad Moms Christmas	2017	US CN	78	295	135 *
72546	Logan	2017	US	49	210	133
73362	Girls Trip	2017	US			132 *
74915	Three Billboards Outside Ebbing, Missouri	2017	US UK			129 *
79023	Annihilation	2018				129 *
74751	The Shape of Water	2017	US			129
72594	Baby Driver	2017	UK* US	28	111	127
67790	Suicide Squad	2016	US	111	458	127
72541	Dunkirk	2017	UK* US FR NL	66	245	127
72500	Fifty Shades Darker	2017	US CN	117	487	126 *
74753	Downsizing	2017	US			124 *
72557	War for the Planet of the Apes	2017	US	51	220	124
73347	Thank You for Your Service	2017	US	4	17	116 *
70908	Zashchitniki	2017	RU			115 *

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Hungary
(*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	909	4 443	530
73392	A Ghost Story	2017	US			487
72536	Justice League	2017	US	146	717	369
72596	Atomic Blonde	2017	US SE	33	148	368
72550	Wonder Woman	2017	US CN HK	304	1 460	352
72589	Kingsman: The Golden Circle	2017	UK* US	182	809	324
72537	Guardians of the Galaxy Vol. 2	2017	US	296	1 417	321
72535	Thor: Ragnarok	2017	US	373	1 806	305
72542	Spider-Man: Homecoming	2017	US	189	890	295
72549	Cars 3	2017	US	157	657	288
72541	Dunkirk	2017	UK* US FR NL	185	861	280
74124	Darkest Hour	2017	UK US	123	539	275 *
67790	Suicide Squad	2016	US	260	1 190	264
74034	Call Me by Your Name	2017	IT FR BR US	18	77	256 *
70908	Zashchitniki	2017	RU			249 *
74915	Three Billboards Outside Ebbing, Missouri	2017	US UK	62	284	248 *
72526	It	2017	US CA	306	1 368	244
72546	Logan	2017	US	207	966	227
74751	The Shape of Water	2017	US	38	171	226
72860	Jumanji: Welcome to the Jungle	2017	US	402	1 875	224
72565	Valerian and the City of a Thousand Planets	2017	FR CN US DE AE	150	0	218
72905	The Foreigner	2017	UK* US CN			211
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	334	1 566	189
77610	Black Panther	2018	US	272	1 328	183
77583	Deadpool 2	2018	US	386	1 745	179
75180	Lady Bird	2017	US	24	100	178 *
72557	War for the Planet of the Apes	2017	US	99	488	176
72872	Logan Lucky	2017	US	21	96	170 *
74798	I, Tonya	2017	US	21	86	168 *
72594	Baby Driver	2017	UK* US	99	456	168

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Ireland
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
73392	A Ghost Story	2017	US			960
72564	The Circle	2017	US AE			747
74915	Three Billboards Outside Ebbing, Missouri	2017	US UK			450 *
72860	Jumanji: Welcome to the Jungle	2017	US			363
72535	Thor: Ragnarok	2017	US			354
72550	Wonder Woman	2017	US CN HK			352
72536	Justice League	2017	US			351
72529	Star Wars: Episode VIII - The Last Jedi	2017	US			342
72549	Cars 3	2017	US			307
72638	The LEGO Ninjago Movie	2017	US DK			299 *
74753	Downsizing	2017	US			298 *
77575	Avengers: Infinity War	2018	US			289
72596	Atomic Blonde	2017	US SE			284
74798	I, Tonya	2017	US			253 *
74751	The Shape of Water	2017	US			253
72537	Guardians of the Galaxy Vol. 2	2017	US			248
72589	Kingsman: The Golden Circle	2017	UK* US			248
75180	Lady Bird	2017	US			247 *
77583	Deadpool 2	2018	US			244
72541	Dunkirk	2017	UK* US FR NL			234
72542	Spider-Man: Homecoming	2017	US			231
72568	Coco	2017	US			220
72557	War for the Planet of the Apes	2017	US			216
73362	Girls Trip	2017	US			213 *
73405	The Disaster Artist	2017	US			210 *
72905	The Foreigner	2017	UK* US CN			199
72593	The Greatest Showman	2017	US			191 *
72499	Despicable Me 3	2017	US			189 *
77610	Black Panther	2018	US			188
70908	Zashchitniki	2017	RU			186 *

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Italy
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
72535	Thor: Ragnarok	2017	US	1 262	8 832	13 715
72536	Justice League	2017	US	990	6 743	13 422
72530	Blade Runner 2049	2017	US UK HU CA	795	5 514	13 150
72550	Wonder Woman	2017	US CN HK	1 085	6 906	12 754
72526	It	2017	US CA	2 039	14 543	12 444
72541	Dunkirk	2017	UK* US FR NL	1 315	8 847	11 819
72542	Spider-Man: Homecoming	2017	US	1 300	8 609	10 444
72546	Logan	2017	US	895	5 313	9 092
72548	Kong: Skull Island	2017	US CN	497	3 273	8 153
67790	Suicide Squad	2016	US	1 796	12 107	8 044
72556	Ferdinand	2017	US	923	6 003	7 338 *
74751	The Shape of Water	2017	US	1 363	8 651	7 097
55928	Avengers: Age of Ultron	2015	US	2 311		7 065
77575	Avengers: Infinity War	2018	US	2 646	18 778	7 045
72596	Atomic Blonde	2017	US SE	276	1 769	6 998
72549	Cars 3	2017	US	1 220	7 935	6 434
77610	Black Panther	2018	US	1 064	7 177	6 183
77599	Red Sparrow	2018	US	504	3 344	6 076 *
72602	Geostorm	2017	US	229	1 577	5 846 *
72623	Get Out	2017	US JP	173	1 131	5 649 *
72594	Baby Driver	2017	UK* US	270	1 809	5 508
77583	Deadpool 2	2018	US	1 051	7 107	5 356
72696	Detroit	2017	US	53	319	5 056 *
72616	American Assassin	2017	US	157	1 054	4 568 *
72531	Transformers: The Last Knight	2017	US CN	710	4 823	4 458 *
72584	Baywatch	2017	US CN UK	320	2 092	4 389 *
72572	Ghost in the Shell	2017	US CN IN HK UK	369	2 235	3 920 *
72568	Coco	2017	US	1 754	11 349	3 747
72139	The Mummy	2017	US CN	688	4 575	3 480 *
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	1 836	12 537	3 396

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Lithuania
(* not in the EUR28 top 30)

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
72535	Thor: Ragnarok	2017	US	30	176	511
74915	Three Billboards Outside Ebbing, Missouri	2017	US UK	8	43	313 *
67854	Sing	2016	US JP	96	427	199 *
77196	Brawl in Cell Block 99	2017	US			143 *
72905	The Foreigner	2017	UK* US CN	6	32	119
72602	Geostorm	2017	US	23	146	118 *
72541	Dunkirk	2017	UK* US FR NL	49	267	115
77575	Avengers: Infinity War	2018	US	58	350	115
72530	Blade Runner 2049	2017	US UK HU CA	34	195	112
72536	Justice League	2017	US	21	118	96
78948	Braven	2018	CA	1	6	93 *
72561	American Made	2017	US	19	98	90 *
72557	War for the Planet of the Apes	2017	US	14	75	85
74751	The Shape of Water	2017	US	19	100	84
72860	Jumanji: Welcome to the Jungle	2017	US	62	355	81
77626	Pacific Rim: Uprising	2018	US UK JP CN	9	52	81 *
72616	American Assassin	2017	US	6	31	79 *
72565	Valerian and the City of a Thousand Planets	2017	FR CN US DE AE	19	113	75
72526	It	2017	US CA	48	263	75
79669	Acts of Violence	2018	CA			75 *
72139	The Mummy	2017	US CN	39	222	70 *
77673	12 Strong	2018	US	7	35	68 *
72589	Kingsman: The Golden Circle	2017	UK* US	14	72	66
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	106	598	66
72548	Kong: Skull Island	2017	US CN	37	203	65
72550	Wonder Woman	2017	US CN HK	41	214	63
79023	Annihilation	2018				62 *
77619	Den of Thieves	2018	US	6	29	61 *
72576	The Dark Tower	2017	US	9	48	58 *
72531	Transformers: The Last Knight	2017	US CN	26	152	57 *

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Luxembourg
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
72596	Atomic Blonde	2017	US SE			91
72549	Cars 3	2017	US			87
72536	Justice League	2017	US			87
72542	Spider-Man: Homecoming	2017	US			85
72589	Kingsman: The Golden Circle	2017	UK* US			76
72905	The Foreigner	2017	UK* US CN			75
72860	Jumanji: Welcome to the Jungle	2017	US			74
72529	Star Wars: Episode VIII - The Last Jedi	2017	US			72
72535	Thor: Ragnarok	2017	US			68
72568	Coco	2017	US			64
72550	Wonder Woman	2017	US CN HK			61
72581	xXx: Return of Xander Cage	2017	US CN CA			60 *
72541	Dunkirk	2017	UK* US FR NL			52
76435	Fifty Shades Freed	2018	US			51 *
67790	Suicide Squad	2016	US			50
72546	Logan	2017	US			48
72540	The Fate of the Furious	2017	US CN JP			47
72872	Logan Lucky	2017	US			46 *
72526	It	2017	US CA			44
72557	War for the Planet of the Apes	2017	US			44
72576	The Dark Tower	2017	US			42 *
72638	The LEGO Ninjago Movie	2017	US DK			42 *
74124	Darkest Hour	2017	UK US			42 *
72561	American Made	2017	US			41 *
72537	Guardians of the Galaxy Vol. 2	2017	US			39
55928	Avengers: Age of Ultron	2015	US			38
72594	Baby Driver	2017	UK* US			38
72572	Ghost in the Shell	2017	US CN IN HK UK			36 *
72531	Transformers: The Last Knight	2017	US CN			36 *
73392	A Ghost Story	2017	US			35

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Latvia
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
77575	Avengers: Infinity War	2018	US	46	304	833
72905	The Foreigner	2017	UK* US CN	5	28	530
77586	Ready Player One	2018	US	23	134	504 *
72536	Justice League	2017	US	19	121	462
72535	Thor: Ragnarok	2017	US	29	176	441
72860	Jumanji: Welcome to the Jungle	2017	US	67	385	359
72677	The Last Word	2017	US	2	8	356 *
77610	Black Panther	2018	US	32	207	350
72537	Guardians of the Galaxy Vol. 2	2017	US	29	180	318
72602	Geostorm	2017	US	15	80	318 *
72139	The Mummy	2017	US CN	30	176	316 *
72548	Kong: Skull Island	2017	US CN	26	142	307
77597	Adrift	2018	US HK IS	4	21	301 *
77676	Game Night	2018	US	9	52	280 *
78948	Braven	2018	CA			262 *
77621	Rampage	2018	US	15	65	258 *
68817	Beauty and the Beast	2017	US	34	173	249 *
72592	John Wick: Chapter 2	2017	US HK	17	96	247 *
72562	Jigsaw	2017	US CA	15	76	246 *
72530	Blade Runner 2049	2017	US UK HU CA	21	129	235
77619	Den of Thieves	2018	US	2	12	233 *
72648	A Bad Moms Christmas	2017	US CN	19	100	224 *
70908	Zashchitniki	2017	RU	2	12	223 *
72541	Dunkirk	2017	UK* US FR NL	15	86	209
72584	Baywatch	2017	US CN UK	22	113	207 *
77598	Tomb Raider	2018	US UK	21	133	201 *
77673	12 Strong	2018	US	1	7	201 *
72499	Despicable Me 3	2017	US	128	604	198 *
79023	Annihilation	2018				196 *
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	40	279	194

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Malta
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
73392	A Ghost Story	2017	US			83
72860	Jumanji: Welcome to the Jungle	2017	US			73
72549	Cars 3	2017	US			60
72550	Wonder Woman	2017	US CN HK			53
73362	Girls Trip	2017	US			49 *
72596	Atomic Blonde	2017	US SE			45
72589	Kingsman: The Golden Circle	2017	UK* US			45
67790	Suicide Squad	2016	US			41
72593	The Greatest Showman	2017	US			40 *
72537	Guardians of the Galaxy Vol. 2	2017	US			40
72905	The Foreigner	2017	UK* US CN			39
74753	Downsizing	2017	US			38 *
72540	The Fate of the Furious	2017	US CN JP			38
72536	Justice League	2017	US			38
72556	Ferdinand	2017	US			38 *
72535	Thor: Ragnarok	2017	US			34
72541	Dunkirk	2017	UK* US FR NL			34
72568	Coco	2017	US			34
77619	Den of Thieves	2018	US			34 *
72542	Spider-Man: Homecoming	2017	US			34
70908	Zashchitniki	2017	RU			34 *
72648	A Bad Moms Christmas	2017	US CN			33 *
72499	Despicable Me 3	2017	US			32 *
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US			31
72923	Stronger	2017	US			31 *
72559	The Emoji Movie	2017	US			30 *
74751	The Shape of Water	2017	US			29
72546	Logan	2017	US			28
77583	Deadpool 2	2018	US			28
72529	Star Wars: Episode VIII - The Last Jedi	2017	US			28

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Netherlands
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
72860	Jumanji: Welcome to the Jungle	2017	US	993	9 687	1 479
73392	A Ghost Story	2017	US	4	32	1 465
72537	Guardians of the Galaxy Vol. 2	2017	US	396	3 998	1 135
77583	Deadpool 2	2018	US	462	4 279	997
70908	Zashchitniki	2017	RU			912 *
74753	Downsizing	2017	US	75	587	876 *
72550	Wonder Woman	2017	US CN HK	689	6 485	856
72535	Thor: Ragnarok	2017	US	395	3 971	838
72536	Justice League	2017	US	249	2 459	827
72549	Cars 3	2017	US	342	2 585	798
72542	Spider-Man: Homecoming	2017	US	372	3 512	794
72589	Kingsman: The Golden Circle	2017	UK* US	378	3 267	791
67790	Suicide Squad	2016	US	574	5 689	727
72596	Atomic Blonde	2017	US SE	146	1 209	684
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	1 019	9 942	668
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	1 192	13 180	666
77575	Avengers: Infinity War	2018	US	874	9 264	650
72564	The Circle	2017	US AE	153	1 208	598
72540	The Fate of the Furious	2017	US CN JP	848	7 670	593
72546	Logan	2017	US	342	3 018	583
72557	War for the Planet of the Apes	2017	US	341	3 254	568
72526	It	2017	US CA	581	5 192	561
77620	Maze Runner: The Death Cure	2018	US	325	3 300	558 *
74915	Three Billboards Outside Ebbing, Missouri	2017	US UK	347	2 872	540 *
72541	Dunkirk	2017	UK* US FR NL	760	6 976	538
72905	The Foreigner	2017	UK* US CN	119	971	529
73362	Girls Trip	2017	US	191	1 557	474 *
74751	The Shape of Water	2017	US	216	1 767	449
77598	Tomb Raider	2018	US UK	315	3 093	427 *
72531	Transformers: The Last Knight	2017	US CN	196	1 946	409 *

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Poland
(* not in the EUR28 top 30)

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
77575	Avengers: Infinity War	2018	US	1 225	-	6 289
72535	Thor: Ragnarok	2017	US	688	-	5 216
72565	Valerian and the City of a Thousand Planets	2017	FR CN US DE AE	425	-	4 935
72536	Justice League	2017	US	313	-	4 645
72561	American Made	2017	US	315	-	4 103 *
72596	Atomic Blonde	2017	US SE	160	-	3 920
72541	Dunkirk	2017	UK* US FR NL	709	-	3 522
72530	Blade Runner 2049	2017	US UK HU CA	548	-	3 194
72542	Spider-Man: Homecoming	2017	US	493	-	2 995
72576	The Dark Tower	2017	US	181	-	2 778 *
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	2 096	-	2 632
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	1 368	-	2 579
72602	Geostorm	2017	US	159	-	2 571 *
73392	A Ghost Story	2017	US	4	-	2 493
77610	Black Panther	2018	US	576	-	2 477
72531	Transformers: The Last Knight	2017	US CN	511	-	2 475 *
72550	Wonder Woman	2017	US CN HK	571	-	2 474
72589	Kingsman: The Golden Circle	2017	UK* US	201	-	2 436
72549	Cars 3	2017	US	812	-	2 394
72139	The Mummy	2017	US CN	280	-	2 265 *
72616	American Assassin	2017	US	105	-	2 145 *
72537	Guardians of the Galaxy Vol. 2	2017	US	575	-	2 141
74915	Three Billboards Outside Ebbing, Missouri	2017	US UK	311	-	2 021 *
73362	Girls Trip	2017	US			1 799 *
72872	Logan Lucky	2017	US			1 795 *
79023	Annihilation	2018				1 723 *
72905	The Foreigner	2017	UK* US CN			1 689
72594	Baby Driver	2017	UK* US	227	-	1 648
72526	It	2017	US CA	716	-	1 623
67790	Suicide Squad	2016	US	774	-	1 600

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Portugal
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
72860	Jumanji: Welcome to the Jungle	2017	US	320	1 726	1 028
73392	A Ghost Story	2017	US			907
77583	Deadpool 2	2018	US	386	2 151	874
72550	Wonder Woman	2017	US CN HK	326	1 765	504
72536	Justice League	2017	US	204	1 171	489
72549	Cars 3	2017	US	253	1 223	473
74751	The Shape of Water	2017	US	138	739	467
72589	Kingsman: The Golden Circle	2017	UK* US	128	702	423
72596	Atomic Blonde	2017	US SE	71	381	417
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	423	2 675	412
77620	Maze Runner: The Death Cure	2018	US	154	868	389 *
72922	Pitch Perfect 3	2017	US	25	132	389 *
72542	Spider-Man: Homecoming	2017	US	208	1 116	388
74753	Downsizing	2017	US	28	149	380 *
72540	The Fate of the Furious	2017	US CN JP	788	4 305	375
72537	Guardians of the Galaxy Vol. 2	2017	US	162	872	374
72905	The Foreigner	2017	UK* US CN	66	352	367
82346	Of Gods and Warriors	2018				348 *
72541	Dunkirk	2017	UK* US FR NL	175	1 001	337
72535	Thor: Ragnarok	2017	US	199	1 133	336
72564	The Circle	2017	US AE	56	282	335
77575	Avengers: Infinity War	2018	US	408	2 420	333
70908	Zashchitniki	2017	RU			319 *
74124	Darkest Hour	2017	UK US	104	568	313 *
74915	Three Billboards Outside Ebbing, Missouri	2017	US UK	124	670	308 *
72556	Ferdinand	2017	US	325	1 600	280 *
72530	Blade Runner 2049	2017	US UK HU CA	136	800	273
72500	Fifty Shades Darker	2017	US CN	437	2 351	273 *
77598	Tomb Raider	2018	US UK	247	1 379	273 *
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	410	2 225	268

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Romania
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
73392	A Ghost Story	2017	US			2 650
72550	Wonder Woman	2017	US CN HK	388	1 851	2 042
72535	Thor: Ragnarok	2017	US	351	1 694	2 004
72549	Cars 3	2017	US	157	625	1 950
72860	Jumanji: Welcome to the Jungle	2017	US	509	2 331	1 948
72536	Justice League	2017	US	266	1 278	1 886
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	377	1 781	1 756
72540	The Fate of the Furious	2017	US CN JP	678	2 816	1 709
72596	Atomic Blonde	2017	US SE	113	436	1 665
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	412	1 914	1 529
72589	Kingsman: The Golden Circle	2017	UK* US	128	546	1 521
72542	Spider-Man: Homecoming	2017	US	195	851	1 504
67790	Suicide Squad	2016	US	425	1 848	1 325
72905	The Foreigner	2017	UK* US CN			1 256
72537	Guardians of the Galaxy Vol. 2	2017	US	210	1 002	1 245
74751	The Shape of Water	2017	US	53	225	1 239
77583	Deadpool 2	2018	US	346	1 469	1 175
72541	Dunkirk	2017	UK* US FR NL	165	660	1 130
72531	Transformers: The Last Knight	2017	US CN	155	699	1 117 *
73362	Girls Trip	2017	US	44	178	1 081 *
74753	Downsizing	2017	US	51	211	1 068 *
72648	A Bad Moms Christmas	2017	US CN	204	841	1 065 *
72546	Logan	2017	US	230	966	1 045
72557	War for the Planet of the Apes	2017	US	195	869	1 044
72565	Valerian and the City of a Thousand Planets	2017	FR CN US DE AE	98	0	1 018
72602	Geostorm	2017	US	192	914	1 015 *
77575	Avengers: Infinity War	2018	US	424	2 017	970
74124	Darkest Hour	2017	UK US	46	199	957 *
77599	Red Sparrow	2018	US	152	675	935 *
72526	It	2017	US CA	138	549	923

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Sweden
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
73392	A Ghost Story	2017	US			715
72860	Jumanji: Welcome to the Jungle	2017	US			659
72589	Kingsman: The Golden Circle	2017	UK* US			578
72535	Thor: Ragnarok	2017	US			563
72542	Spider-Man: Homecoming	2017	US			519
72536	Justice League	2017	US			505
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US			502
72537	Guardians of the Galaxy Vol. 2	2017	US			493
72550	Wonder Woman	2017	US CN HK			479
74753	Downsizing	2017	US			467 *
72596	Atomic Blonde	2017	US SE			409
72549	Cars 3	2017	US			406
77583	Deadpool 2	2018	US			393
72540	The Fate of the Furious	2017	US CN JP			386
70908	Zashchitniki	2017	RU			383 *
72529	Star Wars: Episode VIII - The Last Jedi	2017	US			359
72546	Logan	2017	US			348
72531	Transformers: The Last Knight	2017	US CN			344 *
72557	War for the Planet of the Apes	2017	US			340
72541	Dunkirk	2017	UK* US FR NL			325
72530	Blade Runner 2049	2017	US UK HU CA			320
72905	The Foreigner	2017	UK* US CN			307
72556	Ferdinand	2017	US			307 *
72499	Despicable Me 3	2017	US			304 *
72565	Valerian and the City of a Thousand Planets	2017	FR CN US DE AE	65	0	304
77575	Avengers: Infinity War	2018	US	505		300
72561	American Made	2017	US			299 *
74915	Three Billboards Outside Ebbing, Missouri	2017	US UK			298 *
67790	Suicide Squad	2016	US	339	4 575	289
72526	It	2017	US CA			287

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Slovenia
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
72860	Jumanji: Welcome to the Jungle	2017	US	37	202	204
73392	A Ghost Story	2017	US			185
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	68	384	136
74753	Downsizing	2017	US	3	14	125 *
72550	Wonder Woman	2017	US CN HK	27	153	124
67790	Suicide Squad	2016	US	39	228	120
77583	Deadpool 2	2018	US	45	242	118
72540	The Fate of the Furious	2017	US CN JP	89	525	112
72549	Cars 3	2017	US	44	216	109
72542	Spider-Man: Homecoming	2017	US	18	87	108
72596	Atomic Blonde	2017	US SE	6	32	105
72535	Thor: Ragnarok	2017	US	27	161	104
73362	Girls Trip	2017	US			104 *
72537	Guardians of the Galaxy Vol. 2	2017	US	19	108	100
72536	Justice League	2017	US	15	85	94
72648	A Bad Moms Christmas	2017	US CN	31	173	93 *
72546	Logan	2017	US	18	99	87
72589	Kingsman: The Golden Circle	2017	UK* US	13	76	83
72500	Fifty Shades Darker	2017	US CN	93	494	81 *
79023	Annihilation	2018				77 *
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	65	404	76
72565	Valerian and the City of a Thousand Planets	2017	FR CN US DE AE	13	0	75
74034	Call Me by Your Name	2017	IT FR BR US	6	32	74 *
70908	Zashchitniki	2017	RU			72 *
72923	Stronger	2017	US			72 *
77712	Love, Simon	2018	US	3	14	70 *
72556	Ferdinand	2017	US	99	515	69 *
72541	Dunkirk	2017	UK* US FR NL	27	135	68
72656	All Eyez on Me	2017	US			66 *
72594	Baby Driver	2017	UK* US	12	64	66

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in Slovakia
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
73392	A Ghost Story	2017	US			87
72589	Kingsman: The Golden Circle	2017	UK* US	35	194	79
72546	Logan	2017	US	64	349	67
72535	Thor: Ragnarok	2017	US	115	705	67
72536	Justice League	2017	US	56	350	67
72596	Atomic Blonde	2017	US SE	9	49	63
72550	Wonder Woman	2017	US CN HK	98	570	62
72542	Spider-Man: Homecoming	2017	US	54	302	60
77575	Avengers: Infinity War	2018	US	183	1 140	59
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	131	838	58
72549	Cars 3	2017	US	89	437	56
68818	Annabelle 2	2017	US	78	437	56 *
72541	Dunkirk	2017	UK* US FR NL	87	517	56
72537	Guardians of the Galaxy Vol. 2	2017	US	90	538	55
67790	Suicide Squad	2016	US	134	773	54
72534	Pirates of the Caribbean: Dead Men Tell No Tales	2017	US	100	564	53
72860	Jumanji: Welcome to the Jungle	2017	US	113	648	48
72565	Valerian and the City of a Thousand Planets	2017	FR CN US DE AE	41	226	47
72499	Despicable Me 3	2017	US	298	1 413	45 *
73405	The Disaster Artist	2017	US	3	15	43 *
74915	Three Billboards Outside Ebbing, Missouri	2017	US UK	18	96	41 *
77583	Deadpool 2	2018	US	145	842	40
70908	Zashchitniki	2017	RU			40 *
74753	Downsizing	2017	US	15	86	39 *
72540	The Fate of the Furious	2017	US CN JP	131	700	38
72530	Blade Runner 2049	2017	US UK HU CA	38	244	38
72922	Pitch Perfect 3	2017	US	8	37	37 *
72905	The Foreigner	2017	UK* US CN			36
72594	Baby Driver	2017	UK* US	23	122	35
72564	The Circle	2017	US AE	17	91	34

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

Top 30 most pirated films in United Kingdom
 (*) not in the EUR28 top 30

Lumi. ID	Original title	Prod. Year	Producing countries	Admi. (k)	Box Office (€k)	Pirate activ. (k)
73392	A Ghost Story	2017	US	64	550	4 053
72860	Jumanji: Welcome to the Jungle	2017	US	5 005	41 836	3 258
72535	Thor: Ragnarok	2017	US	4 151	35 491	3 239
72529	Star Wars: Episode VIII - The Last Jedi	2017	US	10 988	93 264	3 143
72589	Kingsman: The Golden Circle	2017	UK* US	3 323	28 409	3 020
72536	Justice League	2017	US	2 326	19 890	2 888
77575	Avengers: Infinity War	2018	US	9 191	75 219	2 701
72550	Wonder Woman	2017	US CN HK	5 924	50 651	2 469
72549	Cars 3	2017	US	1 559	13 331	2 262
72596	Atomic Blonde	2017	US SE	501	4 284	2 155
72564	The Circle	2017	US AE			2 106
77583	Deadpool 2	2018	US	4 252	34 801	2 070
72537	Guardians of the Galaxy Vol. 2	2017	US	5 474	46 807	2 033
72542	Spider-Man: Homecoming	2017	US	4 070	34 796	2 029
74753	Downsizing	2017	US	293	2 395	1 915 *
77610	Black Panther	2018	US	6 600	54 016	1 780
72593	The Greatest Showman	2017	US	6 223	51 160	1 762 *
72541	Dunkirk	2017	UK* US FR NL	7 578	64 793	1 691
74915	Three Billboards Outside Ebbing, Missouri	2017	US UK	1 794	14 679	1 621 *
74124	Darkest Hour	2017	UK US	3 236	26 486	1 568 *
72568	Coco	2017	US	2 376	19 449	1 567
72530	Blade Runner 2049	2017	US UK HU CA	2 553	21 826	1 531
70908	Zashchitniki	2017	RU			1 514 *
77598	Tomb Raider	2018	US UK	994	8 133	1 497 *
72557	War for the Planet of the Apes	2017	US	2 769	23 672	1 493
74751	The Shape of Water	2017	US	989	8 097	1 454
72526	It	2017	US CA	4 317	36 915	1 431
72905	The Foreigner	2017	UK* US CN			1 393
72540	The Fate of the Furious	2017	US CN JP	3 955	33 819	1 309
72638	The LEGO Ninjago Movie	2017	US DK	1 300	11 109	1 253 *

Source: MUSO, Lumiere (*) British productions, financed and backed by US studios.

10 ANNEX: TOP 30 MOST PIRATED TV SERIES BY COUNTRY

Top 30 most pirated TV series in AT Austria

(*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
The Orville	5691552	US	6815	258
Star Trek: Discovery	5171438	US	6477	140
Curb Your Enthusiasm	0264235	US	4479	638 *
People of Earth	4695530	US	2773	4 753 *
Blindspot	4474344	US	2286	190 *
American Horror Story	1844624	US	1852	70
Modern Family	1442437	US	1806	87
The Walking Dead	1520211	US	1774	17
Mr. Robot	4158110	US	1423	190
South Park	0121955	US	1359	294
Lucifer	4052886	US	1273	56
The Simpsons	0096697	US	1245	202 *
The Grand Tour	5712554	US	1190	1 278
The Big Bang Theory	0898266	US	1165	53
Game of Thrones	0944947	US	1132	7
Better Call Saul	3032476	US	1083	143
Altered Carbon	2261227	US	1026	169
Forged in Fire	4680444	US	1024	5 662 *
Brooklyn Nine-Nine	2467372	US	967	87 *
Madam Secretary	3501074	US	942	307 *
Vikings	2306299	US	932	25
Rick and Morty	2861424	US	907	108 *
The Path	4789576	US	888	1 948 *
Outlander	3006802	US	850	79
Stranger Things	4574334	US	840	32
Suits	1632701	US	813	66
How to Get Away With Murder	3205802	US	806	116
Gotham	3749900	US	790	65
Blue Bloods	1595859	US	760	151 *
HAPPY!	2452242	US	754	630 *

Source: MUSO

Top 30 most pirated TV series in BE Belgium
 (*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
The Walking Dead	1520211	US	55900	17
Once Upon a Time	1843230	US	16623	138
Lucifer	4052886	US	16301	56
Criminal Minds	0452046	US	15699	46
Vikings	2306299	US	15004	25
Mr. Robot	4158110	US	13860	190
Star Trek: Discovery	5171438	US	13370	140
Arrow	2193021	US	12926	29
Lethal Weapon	5164196	US	11355	123
How to Get Away With Murder	3205802	US	10850	116
Riverdale	5420376	US	10660	29 *
American Horror Story	1844624	US	10534	70
Outlander	3006802	US	9060	79
The Grand Tour	5712554	US	9046	1 278
Game of Thrones	0944947	US	7945	7
The Big Bang Theory	0898266	US	7797	53
Altered Carbon	2261227	US	7469	169
The Good Doctor	6470478	US	7397	68 *
Chicago Fire	2261391	US	7320	251 *
Better Call Saul	3032476	US	6907	143
13 Reasons Why	1837492	US	6830	164 *
The Blacklist	2741602	US	6522	69 *
The Magicians	4254242	US	6172	259 *
MacGyver	1399045	US	6068	302 *
NCIS	364845	US	6019	68
Stranger Things	4574334	US	6013	32
Orange Is the New Black	2372162	US	5905	123 *
Atypical	6315640	US	5894	808 *
The Simpsons	0096697	US	5892	202 *
Supergirl	4016454	US	5833	55

Source: MUSO

Top 30 most pirated TV series in BG Bulgaria
(*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
The Flash	3107288	US	981	17
The Orville	5691552	US	970	258
Star Trek: Discovery	5171438	US	851	140
Family Guy	182576	US	774	174 *
The Big Bang Theory	0898266	US	717	53
Blindspot	4474344	US	660	190 *
The Walking Dead	1520211	US	636	17
Voltron: Legendary Defender	5580664	US	622	1 588 *
South Park	0121955	US	618	294
Gotham	3749900	US	576	65
Supernatural	0460681	US	576	29 *
Lethal Weapon	5164196	US	575	123
Supergirl	4016454	US	513	55
HAPPY!	2452242	US	512	630 *
NCIS: Los Angeles	1378167	US	498	68
The Grand Tour	5712554	US	477	1 278
Vikings	2306299	US	463	25
Altered Carbon	2261227	US	460	169
Star Wars: Rebels	2930604	US	444	1 154 *
Mr. Robot	4158110	US	415	190
Forged in Fire	4680444	US	398	5 662 *
Modern Family	1442437	US	392	87
Westworld	0475784	US	387	70 *
The Blacklist	2741602	US	366	69 *
Game of Thrones	0944947	US	351	7
Lucifer	4052886	US	346	56
The Gifted	4396630	US	323	174 *
Mr. Pickles	2950342	US	317	6 955 *
The Simpsons	0096697	US	300	202 *
Bull	5827228	US	285	243 *

Source: MUSO

Top 30 most pirated TV series in CY Cyprus
 (*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
The Orville	5691552	US	1254	258
Star Trek: Discovery	5171438	US	985	140
The Walking Dead	1520211	US	712	17
The Grand Tour	5712554	US	647	1 278
The Gifted	4396630	US	638	174 *
Gotham	3749900	US	626	65
Vikings	2306299	US	599	25
Mr. Robot	4158110	US	572	190
NCIS	364845	US	540	68
The Big Bang Theory	0898266	US	525	53
Lethal Weapon	5164196	US	521	123
Altered Carbon	2261227	US	482	169
People of Earth	4695530	US	454	4 753 *
Bull	5827228	US	429	243 *
Suits	1632701	US	417	66
Better Call Saul	3032476	US	414	143
Game of Thrones	0944947	US	412	7
The Flash	3107288	US	412	17
Criminal Minds	0452046	US	411	46
The Blacklist	2741602	US	407	69 *
Stranger Things	4574334	US	402	32
The Good Doctor	6470478	US	402	68 *
Supernatural	0460681	US	396	29 *
NCIS: Los Angeles	1378167	US	394	68
Supergirl	4016454	US	393	55
Lucifer	4052886	US	365	56
Homeland	1796960	US	358	127
Family Guy	182576	US	346	174 *
Curb Your Enthusiasm	0264235	US	345	638 *
Young Sheldon	6226232	US	333	271 *

Source: MUSO

Top 30 most pirated TV series in CZ Czech Republic
 (*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
Star Trek: Discovery	5171438	US	7117	140
The Grand Tour	5712554	US	4677	1 278
The Orville	5691552	US	3449	258
The Walking Dead	1520211	US	3372	17
The Big Bang Theory	0898266	US	2639	53
Stranger Things	4574334	US	2475	32
South Park	0121955	US	2341	294
Vikings	2306299	US	2301	25
Mr. Robot	4158110	US	2261	190
American Horror Story	1844624	US	2223	70
Game of Thrones	0944947	US	2115	7
Altered Carbon	2261227	US	1998	169
Better Call Saul	3032476	US	1942	143
The Alienist	4604612	US	1883	369 *
The Simpsons	0096697	US	1701	202 *
Gotham	3749900	US	1579	65
Modern Family	1442437	US	1552	87
Star Wars: Rebels	2930604	US	1430	1 154 *
Mindhunter	5290382	US	1406	225 *
Peaky Blinders	2442560	US	1396	51 *
Lucifer	4052886	US	1336	56
Family Guy	182576	US	1334	174 *
Rick and Morty	2861424	US	1319	108 *
Young Sheldon	6226232	US	1248	271 *
Waco	6040674	US	1242	1 328 *
The Gifted	4396630	US	1111	174 *
Black Mirror	2085059	UK	1065	27 *
Counterpart	4643084	US	1035	352 *
NCIS	364845	US	999	68
The Flash	3107288	US	982	17

Source: MUSO

Top 30 most pirated TV series in DE Germany
(*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
Star Trek: Discovery	5171438	US	6149	140
The Walking Dead	1520211	US	4119	17
Family Guy	182576	US	3638	174 *
The Orville	5691552	US	3212	258
The Simpsons	0096697	US	2888	202 *
Altered Carbon	2261227	US	2568	169
Curb Your Enthusiasm	0264235	US	2371	638 *
Lethal Weapon	5164196	US	2156	123
Vikings	2306299	US	2139	25
South Park	0121955	US	1968	294
Mr. Robot	4158110	US	1933	190
The Grand Tour	5712554	US	1857	1 278
Game of Thrones	0944947	US	1853	7
Lucifer	4052886	US	1713	56
Valor	6503244	US	1640	3 506 *
The Big Bang Theory	0898266	US	1638	53
American Gods	1898069	US	1607	331 *
How to Get Away With Murder	3205802	US	1542	116
Hap and Leonard	3729898	US	1363	3 642 *
Black Mirror	2085059	UK	1361	27 *
Westworld	0475784	US	1305	70 *
Better Call Saul	3032476	US	1236	143
Blindspot	4474344	US	1235	190 *
The Magicians	4254242	US	1235	259 *
Star Wars: Rebels	2930604	US	1211	1 154 *
This Is Us	5555260	US	1201	56 *
Peaky Blinders	2442560	US	1194	51 *
SEAL Team	6473344	US	1177	219 *
The Gifted	4396630	US	1131	174 *
The Flash	3107288	US	1063	17

Source: MUSO

Top 30 most pirated TV series in DK Denmark
 (*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
The Grand Tour	5712554	US	1964	1 278
Carter	7083006	CA	1877	19 306 *
The Walking Dead	1520211	US	1773	17
The Orville	5691552	US	1571	258
Modern Family	1442437	US	1515	87
Star Trek: Discovery	5171438	US	1422	140
South Park	0121955	US	1287	294
NCIS	364845	US	1080	68
NCIS: Los Angeles	1378167	US	1055	68
Scorpion	3514324	US	1052	504 *
The Simpsons	0096697	US	1027	202 *
The Big Bang Theory	0898266	US	943	53
Vikings	2306299	US	923	25
Curb Your Enthusiasm	0264235	US	857	638 *
American Horror Story	1844624	US	834	70
Family Guy	182576	US	815	174 *
The Flash	3107288	US	788	17
Mr. Robot	4158110	US	673	190
Suits	1632701	US	664	66
The Brave	6461736	US	636	1 647 *
NCIS: New Orleans	3560084	US	631	303
Altered Carbon	2261227	US	627	169
Bull	5827228	US	619	243 *
Criminal Minds	0452046	US	604	46
Once Upon a Time	1843230	US	604	138
Brooklyn Nine-Nine	2467372	US	532	87 *
Supernatural	0460681	US	524	29 *
Law and Order SVU	0203259	US	517	68 *
Gotham	3749900	US	504	65
Arrow	2193021	US	477	29

Source: MUSO

Top 30 most pirated TV series in EE Estonia
 (*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
The Grand Tour	5712554	US	4295	1 278
The Jim Jefferies Show	6987966	US	3838	7 938 *
The Orville	5691552	US	1948	258
Star Trek: Discovery	5171438	US	1671	140
Family Guy	182576	US	1651	174 *
Vikings	2306299	US	1358	25
The Big Bang Theory	0898266	US	1327	53
The Walking Dead	1520211	US	1184	17
Modern Family	1442437	US	1141	87
The Simpsons	0096697	US	1130	202 *
Lethal Weapon	5164196	US	1092	123
Better Things	4370596	US	1062	2 331 *
Altered Carbon	2261227	US	1004	169
Lucifer	4052886	US	825	56
Young Sheldon	6226232	US	810	271 *
Better Call Saul	3032476	US	773	143
Mr. Robot	4158110	US	738	190
Stranger Things	4574334	US	726	32
Brooklyn Nine-Nine	2467372	US	672	87 *
American Horror Story	1844624	US	666	70
NCIS: Los Angeles	1378167	US	655	68
Curb Your Enthusiasm	0264235	US	601	638 *
The X-Files	0106179	CA	585	224 *
Game of Thrones	0944947	US	581	7
The Gifted	4396630	US	574	174 *
Rick and Morty	2861424	US	571	108 *
The Flash	3107288	US	535	17
Black Mirror	2085059	UK	525	27 *
Gotham	3749900	US	504	65
South Park	0121955	US	483	294

Source: MUSO

Top 30 most pirated TV series in ES Spain
(* not in the EUR28 top 30 (in thousands))

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
Mr. Robot	4158110	US	5636	190
Vikings	2306299	US	5602	25
Stranger Things	4574334	US	5348	32
Altered Carbon	2261227	US	5214	169
The Walking Dead	1520211	US	5064	17
Better Things	4370596	US	4492	2 331 *
Star Trek: Discovery	5171438	US	4351	140
American Horror Story	1844624	US	4183	70
The Orville	5691552	US	3857	258
The Big Bang Theory	0898266	US	3761	53
Better Call Saul	3032476	US	3577	143
The Alienist	4604612	US	3487	369 *
Britannia	5932548	US	3457	901 *
Homeland	1796960	US	3282	127
Mozart in the Jungle	3502172	US	3085	1 958 *
Modern Family	1442437	US	3018	87
Outlander	3006802	US	2775	79
Peaky Blinders	2442560	US	2661	51 *
Game of Thrones	0944947	US	2594	7
Gotham	3749900	US	2580	65
Salvation	6170874	US	2569	600 *
The Simpsons	0096697	US	2374	202 *
The Flash	3107288	US	2297	17
HAPPY!	2452242	US	2260	630 *
Curb Your Enthusiasm	0264235	US	2169	638 *
People of Earth	4695530	US	2032	4 753 *
This Is Us	5555260	US	1963	56 *
Major Crimes	1936532	US	1860	960 *
The Good Doctor	6470478	US	1835	68 *
The Grand Tour	5712554	US	1835	1 278

Source: MUSO

Top 30 most pirated TV series in FI Finland
 (*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
South Park	0121955	US	1633	294
The Grand Tour	5712554	US	1626	1 278
Modern Family	1442437	US	1290	87
The Walking Dead	1520211	US	1261	17
Star Trek: Discovery	5171438	US	1182	140
The Big Bang Theory	0898266	US	1174	53
Family Guy	182576	US	1117	174 *
The Simpsons	0096697	US	1049	202 *
The Orville	5691552	US	1031	258
Gotham	3749900	US	982	65
Supernatural	0460681	US	930	29 *
American Horror Story	1844624	US	890	70
The Gifted	4396630	US	831	174 *
Vikings	2306299	US	766	25
The Flash	3107288	US	743	17
Empire	3228904	US	724	530 *
NCIS	364845	US	631	68
Mr. Robot	4158110	US	616	190
NCIS: Los Angeles	1378167	US	594	68
Better Call Saul	3032476	US	562	143
Lethal Weapon	5164196	US	558	123
NCIS: New Orleans	3560084	US	551	303
The Blacklist	2741602	US	472	69 *
Mindhunter	5290382	US	459	225 *
Arrow	2193021	US	447	29
The X-Files	0106179	CA	445	224 *
The Magicians	4254242	US	439	259 *
The Good Doctor	6470478	US	431	68 *
Blue Bloods	1595859	US	430	151 *
Bull	5827228	US	417	243 *

Source: MUSO

Top 30 most pirated TV series in FR France
 (*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
The Walking Dead	1520211	US	149489	17
Vikings	2306299	US	46901	25
Mr. Robot	4158110	US	45419	190
Arrow	2193021	US	28856	29
Lucifer	4052886	US	27995	56
Criminal Minds	0452046	US	26185	46
Once Upon a Time	1843230	US	26137	138
Altered Carbon	2261227	US	25496	169
How to Get Away With Murder	3205802	US	24909	116
American Horror Story	1844624	US	24908	70
Homeland	1796960	US	23140	127
Star Trek: Discovery	5171438	US	21300	140
Lethal Weapon	5164196	US	20235	123
Riverdale	5420376	US	18617	29 *
Game of Thrones	0944947	US	18017	7
Better Call Saul	3032476	US	17052	143
The Big Bang Theory	0898266	US	16597	53
MacGyver	1399045	US	16478	302 *
Westworld	0475784	US	16108	70 *
The Magicians	4254242	US	14360	259 *
Outlander	3006802	US	13860	79
13 Reasons Why	1837492	US	13654	164 *
Stranger Things	4574334	US	13579	32
Orange Is the New Black	2372162	US	13576	123 *
The X-Files	0106179	CA	12845	224 *
American Gods	1898069	US	12464	331 *
NCIS	364845	US	11803	68
South Park	0121955	US	11238	294
Supergirl	4016454	US	11238	55
The Blacklist	2741602	US	10800	69 *

Source: MUSO

Top 30 most pirated TV series in UK United Kingdom
(* not in the EUR28 top 30 (in thousands))

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
Star Trek: Discovery	5171438	US	58903	140
The Grand Tour	5712554	US	46374	1 278
The Orville	5691552	US	36024	258
The Walking Dead	1520211	US	33440	17
Gotham	3749900	US	23458	65
Altered Carbon	2261227	US	21096	169
NCIS: New Orleans	3560084	US	21046	303
Curb Your Enthusiasm	0264235	US	19554	638 *
South Park	0121955	US	19309	294
Family Guy	182576	US	18976	174 *
American Horror Story	1844624	US	18487	70
Lethal Weapon	5164196	US	18158	123
Game of Thrones	0944947	US	17475	7
NCIS	364845	US	16883	68
NCIS: Los Angeles	1378167	US	16658	68
The Big Bang Theory	0898266	US	16432	53
Peaky Blinders	2442560	US	16413	51 *
Britannia	5932548	US	16222	901 *
Brooklyn Nine-Nine	2467372	US	15631	87 *
Vikings	2306299	US	14163	25
The Simpsons	0096697	US	13724	202 *
Modern Family	1442437	US	13487	87
The Flash	3107288	US	13115	17
The Gifted	4396630	US	12936	174 *
Mr. Robot	4158110	US	12270	190
Supernatural	0460681	US	11938	29 *
SEAL Team	6473344	US	10850	219 *
Supergirl	4016454	US	10456	55
Scorpion	3514324	US	10225	504 *
Madam Secretary	3501074	US	10118	307 *

Source: MUSO

Top 30 most pirated TV series in EL Greece
 (*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
The Walking Dead	1520211	US	10015	17
Star Trek: Discovery	5171438	US	9706	140
Peaky Blinders	2442560	US	9556	51 *
Stranger Things	4574334	US	8738	32
Vikings	2306299	US	7568	25
American Horror Story	1844624	US	7469	70
Game of Thrones	0944947	US	6778	7
Mr. Robot	4158110	US	6230	190
Altered Carbon	2261227	US	6113	169
Mindhunter	5290382	US	5466	225 *
Lethal Weapon	5164196	US	5128	123
The Big Bang Theory	0898266	US	4905	53
The Alienist	4604612	US	4560	369 *
Better Call Saul	3032476	US	4409	143
Gotham	3749900	US	4179	65
The Orville	5691552	US	4032	258
The Grand Tour	5712554	US	3978	1 278
NCIS: New Orleans	3560084	US	3940	303
Supernatural	0460681	US	3919	29 *
The Flash	3107288	US	3909	17
Suits	1632701	US	3769	66
NCIS	364845	US	3600	68
The Gifted	4396630	US	3583	174 *
NCIS: Los Angeles	1378167	US	3454	68
The Brave	6461736	US	3441	1 647 *
Arrow	2193021	US	3427	29
Black Mirror	2085059	UK	3356	27 *
Modern Family	1442437	US	3294	87
Homeland	1796960	US	3270	127
How to Get Away With Murder	3205802	US	3209	116

Source: MUSO

Top 30 most pirated TV series in HR Croatia
 (*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
Star Trek: Discovery	5171438	US	17502	140
The Orville	5691552	US	5595	258
The Grand Tour	5712554	US	4805	1 278
Better Things	4370596	US	4241	2 331 *
Curb Your Enthusiasm	0264235	US	3626	638 *
Modern Family	1442437	US	3095	87
Stranger Things	4574334	US	3048	32
The Walking Dead	1520211	US	3004	17
The Big Bang Theory	0898266	US	2923	53
Mindhunter	5290382	US	2457	225 *
Altered Carbon	2261227	US	2342	169
NCIS: Los Angeles	1378167	US	2235	68
Black Mirror	2085059	UK	1936	27 *
Scorpion	3514324	US	1921	504 *
Vikings	2306299	US	1838	25
Game of Thrones	0944947	US	1833	7
Peaky Blinders	2442560	US	1818	51 *
Better Call Saul	3032476	US	1808	143
NCIS	364845	US	1695	68
Mr. Robot	4158110	US	1689	190
American Horror Story	1844624	US	1549	70
The Gifted	4396630	US	1508	174 *
NCIS: New Orleans	3560084	US	1505	303
The X-Files	0106179	CA	1469	224 *
Lethal Weapon	5164196	US	1412	123
The Flash	3107288	US	1295	17
Lucifer	4052886	US	1236	56
This Is Us	5555260	US	1208	56 *
Mosaic	5056958	US	1153	3 383 *
The Alienist	4604612	US	1145	369 *

Source: MUSO

Top 30 most pirated TV series in HU Hungary
 (*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
Star Trek: Discovery	5171438	US	14796	140
The Orville	5691552	US	5619	258
The Grand Tour	5712554	US	4856	1 278
The Walking Dead	1520211	US	4728	17
Mr. Robot	4158110	US	4449	190
Modern Family	1442437	US	4278	87
American Horror Story	1844624	US	3970	70
Stranger Things	4574334	US	3696	32
Game of Thrones	0944947	US	3694	7
Star Wars: Rebels	2930604	US	3628	1 154 *
NCIS	364845	US	3534	68
The Big Bang Theory	0898266	US	3297	53
Supernatural	0460681	US	3224	29 *
The Path	4789576	US	3161	1 948 *
The Good Doctor	6470478	US	3104	68 *
Altered Carbon	2261227	US	3066	169
The Alienist	4604612	US	2895	369 *
Chicago Fire	2261391	US	2647	251 *
Family Guy	182576	US	2619	174 *
Mindhunter	5290382	US	2598	225 *
Vikings	2306299	US	2573	25
Ballers	2891574	US	2476	424 *
South Park	0121955	US	2464	294
The Flash	3107288	US	2369	17
Gotham	3749900	US	2367	65
This Is Us	5555260	US	2319	56 *
Brooklyn Nine-Nine	2467372	US	2245	87 *
Better Things	4370596	US	2240	2 331 *
Voltron: Legendary Defender	5580664	US	2166	1 588 *
Once Upon a Time	1843230	US	2159	138

Source: MUSO

Top 30 most pirated TV series in IE Ireland
(* not in the EUR28 top 30 (in thousands))

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
Star Trek: Discovery	5171438	US	4217	140
The Grand Tour	5712554	US	4211	1 278
Curb Your Enthusiasm	0264235	US	4015	638 *
Peaky Blinders	2442560	US	3900	51 *
The Walking Dead	1520211	US	3376	17
Better Things	4370596	US	2637	2 331 *
The Orville	5691552	US	2613	258
Game of Thrones	0944947	US	2471	7
Gotham	3749900	US	2413	65
Vikings	2306299	US	2325	25
Mr. Robot	4158110	US	2162	190
Altered Carbon	2261227	US	1947	169
Modern Family	1442437	US	1898	87
South Park	0121955	US	1890	294
The Alienist	4604612	US	1792	369 *
American Horror Story	1844624	US	1751	70
Homeland	1796960	US	1709	127
This Is Us	5555260	US	1686	56 *
American Crime Story	2788432	US	1682	308 *
The X-Files	0106179	CA	1649	224 *
The Big Bang Theory	0898266	US	1638	53
Will & Grace	0157246	US	1620	277
Britannia	5932548	US	1600	901 *
Family Guy	182576	US	1567	174 *
The Simpsons	0096697	US	1517	202 *
Waco	6040674	US	1486	1 328 *
Brooklyn Nine-Nine	2467372	US	1467	87 *
Suits	1632701	US	1409	66
Blue Bloods	1595859	US	1347	151 *
Lethal Weapon	5164196	US	1328	123

Source: MUSO

Top 30 most pirated TV series in IT Italy
(*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
Mr. Robot	4158110	US	133183	190
The Walking Dead	1520211	US	109798	17
Vikings	2306299	US	83592	25
Will & Grace	0157246	US	67663	277
Supergirl	4016454	US	65588	55
American Horror Story	1844624	US	60721	70
The Big Bang Theory	0898266	US	57360	53
NCIS	364845	US	55249	68
Star Trek: Discovery	5171438	US	52627	140
Shameless	1586680	US	50819	33 *
Suits	1632701	US	49887	66
Better Call Saul	3032476	US	46965	143
How to Get Away With Murder	3205802	US	44397	116
Fear the Walking Dead	3743822	US	43563	209 *
The Last Man on Earth	3230454	US	43280	703 *
Game of Thrones	0944947	US	41499	7
The Orville	5691552	US	40903	258
The Flash	3107288	US	36668	17
The Exorcist	5368542	US	32381	1 659 *
NCIS: New Orleans	3560084	US	31680	303
Knightfall	4555364	US	29541	498 *
NCIS: Los Angeles	1378167	US	29192	68
Outlander	3006802	US	27596	79
Britannia	5932548	US	27422	901 *
Blindspot	4474344	US	26555	190 *
The Grand Tour	5712554	US	25228	1 278
The X-Files	0106179	CA	22651	224 *
The Blacklist	2741602	US	21392	69 *
Scandal	1837576	US	19846	377 *
Gotham	3749900	US	19814	65

Source: MUSO

Top 30 most pirated TV series in LT Lithuania
 (*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
Vikings	2306299	US	5046	25
The Grand Tour	5712554	US	3143	1 278
The Walking Dead	1520211	US	1975	17
The Simpsons	0096697	US	1688	202 *
Mr. Robot	4158110	US	1685	190
Drug Lords	7935522	US	1339	9 810 *
Altered Carbon	2261227	US	1318	169
Lethal Weapon	5164196	US	1277	123
American Horror Story	1844624	US	1086	70
Lucifer	4052886	US	1061	56
The Orville	5691552	US	1029	258
Star Trek: Discovery	5171438	US	915	140
American Gods	1898069	US	853	331 *
Rick and Morty	2861424	US	842	108 *
Stranger Things	4574334	US	839	32
Better Call Saul	3032476	US	835	143
Game of Thrones	0944947	US	833	7
Shameless	1586680	US	821	33 *
Modern Family	1442437	US	814	87
The X-Files	0106179	CA	811	224 *
Mozart in the Jungle	3502172	US	739	1 958 *
Family Guy	182576	US	721	174 *
Peaky Blinders	2442560	US	718	51 *
The Flash	3107288	US	708	17
The Gifted	4396630	US	694	174 *
The Big Bang Theory	0898266	US	647	53
NCIS	364845	US	637	68
Trailer Park Boys	0290988	CA	601	1 163 *
Black Mirror	2085059	UK	595	27 *
Outlander	3006802	US	589	79

Source: MUSO

Top 30 most pirated TV series in LU Luxembourg
(*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
The Walking Dead	1520211	US	1352	17
Mr. Robot	4158110	US	748	190
Mozart in the Jungle	3502172	US	713	1 958 *
Seven Seconds	6297682	US	461	1 410 *
Star Trek: Discovery	5171438	US	449	140
The Big Bang Theory	0898266	US	423	53
Suits	1632701	US	421	66
Lucifer	4052886	US	397	56
Modern Family	1442437	US	396	87
How to Get Away With Murder	3205802	US	366	116
Vikings	2306299	US	315	25
Arrow	2193021	US	271	29
Homeland	1796960	US	255	127
Outlander	3006802	US	254	79
The Blacklist	2741602	US	246	69 *
Gotham	3749900	US	227	65
NCIS	364845	US	226	68
Supergirl	4016454	US	226	55
The Grand Tour	5712554	US	219	1 278
Star Wars: Rebels	2930604	US	215	1 154 *
Once Upon a Time	1843230	US	209	138
The Flash	3107288	US	208	17
Blue Bloods	1595859	US	193	151 *
Game of Thrones	0944947	US	191	7
Better Call Saul	3032476	US	189	143
The Orville	5691552	US	186	258
South Park	0121955	US	181	294
American Horror Story	1844624	US	179	70
Altered Carbon	2261227	US	171	169
American Gods	1898069	US	149	331 *

Source: MUSO

Top 30 most pirated TV series in LV Latvia
 (*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
The Grand Tour	5712554	US	7738	1 278
The Orville	5691552	US	4228	258
The Simpsons	0096697	US	3887	202 *
SEAL Team	6473344	US	3257	219 *
The Walking Dead	1520211	US	3164	17
Star Trek: Discovery	5171438	US	3080	140
Black Lightning	6045840	US	2850	268 *
The Gifted	4396630	US	2847	174 *
Knightfall	4555364	US	2514	498 *
American Horror Story	1844624	US	2450	70
Condor	6510950	US	2447	2 808 *
Genius	5673782	US	2360	881 *
Vikings	2306299	US	2353	25
Lethal Weapon	5164196	US	2344	123
Barry	5348176	US	2256	1 350 *
The Big Bang Theory	0898266	US	2219	53
Family Guy	182576	US	2169	174 *
Lucifer	4052886	US	1976	56
Scorpion	3514324	US	1750	504 *
Altered Carbon	2261227	US	1747	169
The Originals	2632424	US	1468	177 *
Mr. Robot	4158110	US	1456	190
Ash vs Evil Dead	4189022	US	1444	528 *
Stranger Things	4574334	US	1326	32
The Blacklist	2741602	US	1295	69 *
Modern Family	1442437	US	1196	87
SIX	5541338	US	1166	685 *
The Flash	3107288	US	1115	17
Westworld	0475784	US	1020	70 *
Supernatural	0460681	US	960	29 *

Source: MUSO

Top 30 most pirated TV series in MT Malta
 (*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
One Day at a Time	5339440	US	1432	1 572 *
The Grand Tour	5712554	US	1417	1 278
Star Trek: Discovery	5171438	US	978	140
The Walking Dead	1520211	US	819	17
Will & Grace	0157246	US	753	277
The Big Bang Theory	0898266	US	736	53
The Orville	5691552	US	722	258
Vikings	2306299	US	717	25
Young Sheldon	6226232	US	713	271 *
Suits	1632701	US	665	66
This Is Us	5555260	US	633	56 *
Jane the Virgin	3566726	US	631	256 *
American Crime Story	2788432	US	603	308 *
The Good Doctor	6470478	US	589	68 *
Modern Family	1442437	US	545	87
Peaky Blinders	2442560	US	536	51 *
Gotham	3749900	US	519	65
Scandal	1837576	US	519	377 *
Lucifer	4052886	US	472	56
Game of Thrones	0944947	US	463	7
Love	4061080	US	439	972 *
Altered Carbon	2261227	US	433	169
How to Get Away With Murder	3205802	US	400	116
Blindspot	4474344	US	393	190 *
Homeland	1796960	US	393	127
Designated Survivor	5296406	US	391	166 *
Arrow	2193021	US	383	29
South Park	0121955	US	354	294
Stranger Things	4574334	US	346	32
The Blacklist	2741602	US	327	69 *

Source: MUSO

Top 30 most pirated TV series in NL Netherlands
(* not in the EUR28 top 30 (in thousands))

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
The Grand Tour	5712554	US	9100	1 278
The Walking Dead	1520211	US	8160	17
Modern Family	1442437	US	7929	87
Star Trek: Discovery	5171438	US	6062	140
The Jim Jefferies Show	6987966	US	4995	7 938 *
The Orville	5691552	US	4935	258
Vikings	2306299	US	4890	25
The Good Doctor	6470478	US	4699	68 *
Suits	1632701	US	4628	66
Mr. Robot	4158110	US	4372	190
Game of Thrones	0944947	US	4017	7
Family Guy	182576	US	3791	174 *
The Blacklist	2741602	US	3789	69 *
Homeland	1796960	US	3770	127
Gotham	3749900	US	3751	65
South Park	0121955	US	3748	294
The Gifted	4396630	US	3425	174 *
The Big Bang Theory	0898266	US	3394	53
NCIS: Los Angeles	1378167	US	3303	68
NCIS	364845	US	3290	68
Outlander	3006802	US	3019	79
NCIS: New Orleans	3560084	US	3009	303
Scorpion	3514324	US	2862	504 *
American Horror Story	1844624	US	2844	70
Better Call Saul	3032476	US	2761	143
Jane the Virgin	3566726	US	2741	256 *
Altered Carbon	2261227	US	2695	169
The Flash	3107288	US	2524	17
Once Upon a Time	1843230	US	2407	138
Brooklyn Nine-Nine	2467372	US	2333	87 *

Source: MUSO

Top 30 most pirated TV series in PL Poland
 (*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
Star Trek: Discovery	5171438	US	16920	140
The Grand Tour	5712554	US	15004	1 278
Vikings	2306299	US	14837	25
The Walking Dead	1520211	US	13070	17
Lucifer	4052886	US	11161	56
American Horror Story	1844624	US	8409	70
Mr. Robot	4158110	US	8115	190
Stranger Things	4574334	US	7294	32
The Orville	5691552	US	7122	258
Peaky Blinders	2442560	US	6882	51 *
Altered Carbon	2261227	US	6881	169
NCIS	364845	US	6699	68
Knightfall	4555364	US	6395	498 *
The Gifted	4396630	US	5564	174 *
HAPPY!	2452242	US	5307	630 *
Game of Thrones	0944947	US	5108	7
The Big Bang Theory	0898266	US	5094	53
South Park	0121955	US	4676	294
Supernatural	0460681	US	4437	29 *
Family Guy	182576	US	4376	174 *
Gotham	3749900	US	4038	65
The Flash	3107288	US	4036	17
Better Call Saul	3032476	US	3817	143
Westworld	0475784	US	3751	70 *
Black Mirror	2085059	UK	3655	27 *
Ballers	2891574	US	3555	424 *
The Brave	6461736	US	3521	1 647 *
Supergirl	4016454	US	3520	55
The Alienist	4604612	US	3480	369 *
The X-Files	0106179	CA	3443	224 *

Source: MUSO

Top 30 most pirated TV series in PT Portugal
 (*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
Altered Carbon	2261227	US	12006	169
The Grand Tour	5712554	US	7563	1 278
This Is Us	5555260	US	6511	56 *
Modern Family	1442437	US	6002	87
Star Trek: Discovery	5171438	US	5975	140
NCIS: Los Angeles	1378167	US	5588	68
The Good Doctor	6470478	US	5579	68 *
Mr. Robot	4158110	US	5382	190
The Walking Dead	1520211	US	5291	17
Vikings	2306299	US	5256	25
The Big Bang Theory	0898266	US	4868	53
Stranger Things	4574334	US	4848	32
The Simpsons	0096697	US	4845	202 *
The Brave	6461736	US	4817	1 647 *
MacGyver	1399045	US	4023	302 *
Hawaii Five-0	1600194	US	3944	104 *
The Gifted	4396630	US	3940	174 *
The Orville	5691552	US	3607	258
Riverdale	5420376	US	3524	29 *
Gotham	3749900	US	3432	65
Blindspot	4474344	US	3067	190 *
Family Guy	182576	US	3047	174 *
American Horror Story	1844624	US	3023	70
The Flash	3107288	US	2784	17
SEAL Team	6473344	US	2617	219 *
Young Sheldon	6226232	US	2580	271 *
Brooklyn Nine-Nine	2467372	US	2490	87 *
Game of Thrones	0944947	US	2444	7
How to Get Away With Murder	3205802	US	2364	116
Supernatural	0460681	US	2276	29 *

Source: MUSO

Top 30 most pirated TV series in RO Romania
(* not in the EUR28 top 30 (in thousands))

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
Star Trek: Discovery	5171438	US	18554	140
The Orville	5691552	US	8530	258
The Grand Tour	5712554	US	8264	1 278
Vikings	2306299	US	6517	25
Altered Carbon	2261227	US	6023	169
The Big Bang Theory	0898266	US	5918	53
Modern Family	1442437	US	5903	87
The Walking Dead	1520211	US	5529	17
American Horror Story	1844624	US	5430	70
Game of Thrones	0944947	US	5364	7
Major Crimes	1936532	US	4628	960 *
The Librarians	3663490	US	4604	1 094 *
Mr. Robot	4158110	US	4265	190
Lethal Weapon	5164196	US	4029	123
Lucifer	4052886	US	3852	56
Family Guy	182576	US	3770	174 *
Supernatural	0460681	US	3381	29 *
NCIS: New Orleans	3560084	US	3364	303
Madam Secretary	3501074	US	3322	307 *
Hawaii Five-0	1600194	US	3252	104 *
NCIS	364845	US	3173	68
The Alienist	4604612	US	3135	369 *
Suits	1632701	US	3133	66
Forged in Fire	4680444	US	3088	5 662 *
Criminal Minds	0452046	US	3052	46
Better Things	4370596	US	2972	2 331 *
Star Wars: Rebels	2930604	US	2967	1 154 *
Britannia	5932548	US	2929	901 *
Arrow	2193021	US	2917	29
The Gifted	4396630	US	2903	174 *

Source: MUSO

Top 30 most pirated TV series in SE Sweden
 (*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
The Orville	5691552	US	6844	258
South Park	0121955	US	6586	294
The Grand Tour	5712554	US	4853	1 278
The Walking Dead	1520211	US	4631	17
Modern Family	1442437	US	4031	87
Family Guy	182576	US	3951	174 *
Star Trek: Discovery	5171438	US	3903	140
NCIS: Los Angeles	1378167	US	2648	68
The Simpsons	0096697	US	2461	202 *
The Big Bang Theory	0898266	US	2427	53
Vikings	2306299	US	2307	25
Mr. Robot	4158110	US	2100	190
NCIS: New Orleans	3560084	US	1956	303
Star Wars: Rebels	2930604	US	1882	1 154 *
American Horror Story	1844624	US	1863	70
Curb Your Enthusiasm	0264235	US	1841	638 *
The Gifted	4396630	US	1739	174 *
Brooklyn Nine-Nine	2467372	US	1700	87 *
Criminal Minds	0452046	US	1661	46
Gotham	3749900	US	1630	65
NCIS	364845	US	1620	68
Game of Thrones	0944947	US	1538	7
Altered Carbon	2261227	US	1478	169
The Good Doctor	6470478	US	1454	68 *
The Path	4789576	US	1451	1 948 *
Supernatural	0460681	US	1397	29 *
The Flash	3107288	US	1380	17
Suits	1632701	US	1304	66
Rick and Morty	2861424	US	1202	108 *
MacGyver	1399045	US	1194	302 *

Source: MUSO

Top 30 most pirated TV series in SI Slovenia
 (*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
Star Trek: Discovery	5171438	US	2414	140
The Grand Tour	5712554	US	2215	1 278
The Orville	5691552	US	1676	258
Forged in Fire	4680444	US	1581	5 662 *
The Big Bang Theory	0898266	US	1315	53
Modern Family	1442437	US	1255	87
NCIS	364845	US	1060	68
Curb Your Enthusiasm	0264235	US	950	638 *
Jane the Virgin	3566726	US	893	256 *
South Park	0121955	US	869	294
NCIS: Los Angeles	1378167	US	831	68
Stranger Things	4574334	US	813	32
MacGyver	1399045	US	793	302 *
Better Call Saul	3032476	US	778	143
Chicago Fire	2261391	US	778	251 *
Star Wars: Rebels	2930604	US	777	1 154 *
Will & Grace	0157246	US	714	277
Vikings	2306299	US	703	25
The Walking Dead	1520211	US	701	17
Mr. Robot	4158110	US	682	190
Major Crimes	1936532	US	647	960 *
NCIS: New Orleans	3560084	US	634	303
The Simpsons	0096697	US	627	202 *
Bull	5827228	US	608	243 *
The Flash	3107288	US	605	17
The Librarians	3663490	US	602	1 094 *
Altered Carbon	2261227	US	601	169
Divorce	4304864	US	588	2 554 *
Lucifer	4052886	US	585	56
American Horror Story	1844624	US	570	70

Source: MUSO

Top 30 most pirated TV series in SK Slovakia
 (*) not in the EUR28 top 30 (in thousands)

Series	imdb	Producing country	Piracy (k)	MOVIE-meter
Star Trek: Discovery	5171438	US	3937	140
The Orville	5691552	US	1897	258
The Grand Tour	5712554	US	1743	1 278
The Big Bang Theory	0898266	US	1731	53
Mr. Robot	4158110	US	1212	190
South Park	0121955	US	1131	294
Here and Now	5923012	US	1111	2 540 *
The Walking Dead	1520211	US	1087	17
Mindhunter	5290382	US	1040	225 *
Vikings	2306299	US	1012	25
Modern Family	1442437	US	986	87
The Exorcist	5368542	US	985	1 659 *
Altered Carbon	2261227	US	975	169
The Alienist	4604612	US	879	369 *
Stranger Things	4574334	US	859	32
Game of Thrones	0944947	US	841	7
The Magicians	4254242	US	806	259 *
Waco	6040674	US	672	1 328 *
The Simpsons	0096697	US	653	202 *
Peaky Blinders	2442560	US	608	51 *
American Horror Story	1844624	US	569	70
Rick and Morty	2861424	US	555	108 *
Scorpion	3514324	US	523	504 *
The Gifted	4396630	US	520	174 *
Gotham	3749900	US	516	65
Lucifer	4052886	US	515	56
Black Mirror	2085059	UK	496	27 *
Family Guy	182576	US	483	174 *
Top Gear	1628033	UK	463	1 789 *
NCIS: Los Angeles	1378167	US	452	68

Source: MUSO

11 ANNEX: TOP 30 MOST PIRATED MUSICIANS BY COUNTRY

Top 30 most pirated musicians in AT Austria

(*) not in the EUR28 top 30

Artist	iTunesID	Artist country	Genre	Piracy (k)
Dua Lipa	1031397873	United Kingdom	pop	103 101 *
Ed Sheeran	183313439	United Kingdom	pop	50 192
Kygo	635806094	Norway	dance	41 870 *
Neil Young	147370	United States	rock	35 691
DJ Snake	125742557	France	dance	29 711 *
Arcade Fire	23203991	Canada	alternative	28 940
Van Morrison	253638	United Kingdom	rock	28 468 *
Adele	262836961	United Kingdom	pop	24 381
Luis Fonsi	102834	Puerto Rico	pop	22 119
Portugal. The Man	167649475	United States	alternative	21 230
The Chainsmokers	580391756	United States	dance	21 001
Kendrick Lamar	368183298	United States	hip-hop/rap	18 213
Sia	13493906	Australia	pop	17 848
Charlie Puth	336249253	United States	pop	16 621
Taylor Swift	159260351	United States	pop	14 958
Blue Öyster Cult	472017	United States	metal	14 580 *
Miley Cyrus	137057909	United States	pop	13 879 *
Lana Del Rey	464296584	United States	alternative	13 753
The Script	277228393	United Kingdom	pop	12 479 *
Selena Gomez	280215834	United States	pop	12 014
Kanye West	2715720	United States	hip-hop/rap	11 878
Alan Walker	1062085272	Norway	electronic	10 925
The Beatles	136975	United Kingdom	rock	10 755 *
Rita Ora	355898104	United Kingdom	pop	10 382 *
UNKLE	133444	United Kingdom	electronic	10 069 *
Jamiroquai	475902	United Kingdom	pop	10 029
Common	64490	United States	hip-hop/rap	9 676 *
ZAYN	973181994	United Kingdom	pop	9 356 *
Machine Head	16638695	United States	metal	9 273 *
Fleet Foxes	275727569	United States	alternative	9 140 *

Source: MUSO

Top 30 most pirated musicians in BE Belgium
(* not in the EUR28 top 30)

Artist	iTunesID	Artist country	Genre	Piracy (k)
Bruno Mars	278873078	United States	pop	324 059
Ed Sheeran	183313439	United Kingdom	pop	289 310
Jamiroquai	475902	United Kingdom	pop	215 024
Kendrick Lamar	368183298	United States	hip-hop/rap	158 649
J. Cole	73705833	Germany	hip-hop/rap	158 417 *
Luis Fonsi	102834	Puerto Rico	pop	146 081
Kanye West	2715720	United States	hip-hop/rap	125 644
Niska	727527367	France	hip-hop/rap	108 199 *
Lana Del Rey	464296584	United States	alternative	103 740
Selena Gomez	280215834	United States	pop	102 618
The Weeknd	479756766	Canada	R&B/Soul	102 144
Coldplay	471744	United Kingdom	alternative	99 030
Migos	569925101	United States	hip-hop/rap	89 701 *
Shakira	889327	Colombia	pop	81 006
Arcade Fire	23203991	Canada	alternative	80 996
Taylor Swift	159260351	United States	pop	75 574
BEYONCÉ	1419227	United Kingdom	pop	72 452 *
Drake	271256	Canada	hip-hop/rap	69 331 *
Gorillaz	567072	United Kingdom	alternative	66 392 *
Kesha	334854763	United States	pop	62 071 *
Portugal. The Man	167649475	United States	alternative	52 325
Suicide Squad	290803531	United States	soundtrack	51 887 *
Soprano	62797922	France	hip-hop/rap	44 941 *
The Lumineers	350720227	United States	alternative	42 094
Florent Pagny	4418335	France	pop	39 200 *
Michael Jackson	32940	United States	pop	39 159 *
Franz Ferdinand	6596751	United Kingdom	pop	38 393
Pharrell Williams	1361068	United States	hip-hop/rap	36 937 *
The Chainsmokers	580391756	United States	dance	36 824
THIRTY SECONDS TO MARS,	2307416	United States	rock	36 131 *

Source: MUSO

Top 30 most pirated musicians in BG Bulgaria
(* not in the EUR28 top 30)

Artist	iTunesID	Artist country	Genre	Piracy (k)
Ed Sheeran	183313439	United Kingdom	pop	40 705
Rapsody	6283845	United States	hip-hop/rap	23 215 *
Ricky Martin	217142	Puerto Rico	pop	20 714
HammerFall	6475279	Sweden	metal	18 436 *
Luis Fonsi	102834	Puerto Rico	pop	18 324
Fleetwood Mac	158038	United Kingdom	rock	13 227 *
Zara Larsson	570372593	Sweden	pop	13 170 *
Sia	13493906	Australia	pop	13 032
Taylor Swift	159260351	United States	pop	12 608
Black Rebel Motorcycle Club	624658	United States	rock	12 605 *
Adele	262836961	United Kingdom	pop	12 029
Lana Del Rey	464296584	United States	alternative	11 136
Leonard Cohen	485677	Canada	pop	9 428 *
Drake	271256	Canada	hip-hop/rap	9 398 *
David Guetta	5557599	France	dance	8 422
Selena Gomez	280215834	United States	pop	8 149
Santana	217174	United States	rock	7 837 *
Beck	312095	United Kingdom	alternative	6 796 *
The Weeknd	479756766	Canada	R&B/Soul	6 593
Franz Ferdinand	6596751	United Kingdom	pop	6 581
Led Zeppelin	994656	United Kingdom	rock	6 576 *
Bruno Mars	278873078	United States	pop	6 503
Kelly Clarkson	316265	United States	pop	6 482 *
The Chainsmokers	580391756	United States	dance	6 465
NOFX	2819846	United States	alternative	6 412 *
Future	128050210	United States	hip-hop/rap	6 329 *
The Cranberries	122615	United Kingdom	rock	6 329 *
Kanye West	2715720	United States	hip-hop/rap	6 314
Ellie Goulding	338264227	United Kingdom	pop	5 947 *
Kygo	635806094	Norway	dance	5 835 *

Source: MUSO

Top 30 most pirated musicians in CY Cyprus
(* not in the EUR28 top 30)

Artist	iTunesID	Artist country	Genre	Piracy (k)
Ed Sheeran	183313439	United Kingdom	pop	14 240
Calvin Harris	201955086	United Kingdom	dance	9 662
Alan Walker	1062085272	Norway	electronic	9 290
Taylor Swift	159260351	United States	pop	8 561
Shinedown	1883858	United States	rock	5 414 *
Luis Fonsi	102834	Puerto Rico	pop	4 651
Neil Young	147370	United States	rock	3 922
Charlie Puth	336249253	United States	pop	3 904
Zara Larsson	570372593	Sweden	pop	3 866 *
Ricky Martin	217142	Puerto Rico	pop	3 843
Clean Bandit	463049461	United Kingdom	dance	3 805 *
Kacey Musgraves	466044182	United States	country	3 702 *
The Rolling Stones	1249595	United Kingdom	rock	3 045 *
Drake	271256	Canada	hip-hop/rap	2 879 *
LCD Soundsystem	29525428	United States	electronic	2 879 *
Twenty One Pilots	349736311	United States	alternative	2 569 *
Miley Cyrus	137057909	United States	pop	2 296 *
Adele	262836961	United Kingdom	pop	2 286
Janelle Monáe	140777342	United States	R&B/Soul	2 152 *
Major Lazer ft. Justin Bieber	315761934	United States	pop	2 116 *
Trivium	47123955	United States	metal	1 994 *
The Cranberries	122615	United Kingdom	rock	1 972 *
Rita Ora	355898104	United Kingdom	pop	1 897 *
Martin Garrix	430932944	Netherlands	dance	1 723 *
Lana Del Rey	464296584	United States	alternative	1 651
Lil Pump	1129587661	United States	hip-hop/rap	1 638 *
The Chainsmokers	580391756	United Kingdom	alternative	1 627
Maroon 5	1798556	United States	pop	1 590 *
Shakira	889327	Colombia	pop	1 437
Justin Timberlake	398128	United States	pop	1 419

Source: MUSO

Top 30 most pirated musicians in CZ Czech Republic
 (*) not in the EUR28 top 30

Artist	iTunesID	Artist country	Genre	Piracy (k)
Immortal	15866288	Norway	metal	190 011 *
Jesse Colin Young	2708175	United States	rock	184 545 *
Neil Young	147370	United States	rock	86 507
Alan Walker	1062085272	Norway	electronic	72 020
Justin Timberlake	398128	United States	pop	71 773
Ed Sheeran	183313439	United Kingdom	pop	56 330
Ricky Martin	217142	Puerto Rico	pop	44 752
Arcade Fire	23203991	Canada	alternative	44 086
Luis Fonsi	102834	Puerto Rico	pop	41 827
David Guetta	5557599	France	dance	37 935
Adele	262836961	United Kingdom	pop	32 764
Lana Del Rey	464296584	United States	alternative	32 130
The Beatles	136975	United Kingdom	rock	28 995 *
Loudness	82625317	Japan	metal	26 909 *
The Cranberries	122615	United Kingdom	rock	25 535 *
Taylor Swift	159260351	United States	pop	24 741
Machine Head	16638695	United States	metal	21 820 *
The Lumineers	350720227	United States	alternative	21 713
Coldplay	471744	United Kingdom	alternative	19 789
Future	128050210	United States	hip-hop/rap	19 073 *
Kendrick Lamar	368183298	United States	hip-hop/rap	18 833
Calvin Harris	201955086	United Kingdom	dance	18 671
Roger Waters	542658	United Kingdom	rock	18 374 *
Marilyn Manson	251375	United States	metal	17 780 *
Leonard Cohen	485677	Canada	pop	17 519 *
Franz Ferdinand	6596751	United Kingdom	pop	17 401
Jamiroquai	475902	United Kingdom	pop	16 832
Gorillaz	567072	United Kingdom	alternative	15 572 *
Selena Gomez	280215834	United States	pop	15 484
Nick Cave & the Bad Seeds	1698460	Australia	rock	14 960 *

Source: MUSO

Top 30 most pirated musicians in DE Germany
 (*) not in the EUR28 top 30

Artist	iTunesID	Artist country	Genre	Piracy (k)
Bob Dylan	462006	United States	folk rock	306 395 *
Ed Sheeran	183313439	United Kingdom	pop	251 075
The Doors	1248588	United states	rock	239 094 *
Luis Fonsi	102834	Puerto Rico	pop	234 752
The Weeknd	479756766	Canada	R&B/Soul	185 290
Neil Young	147370	United States	rock	153 059
Pink Floyd	487143	United Kingdom	rock	109 922
Chris Brown	95705522	United States	R&B/Soul	103 237 *
Blue Öyster Cult	472017	United States	metal	96 830 *
Taylor Swift	159260351	United States	pop	96 045
Demi Lovato	280215821	United States	pop	94 469 *
The Troggs	37531	United Kingdom	rock	82 596 *
U2	78500	Ireland	rock	76 884
Ricky Martin	217142	Puerto Rico	pop	75 694
Sam Smith	156488786	United Kingdom	pop	73 527 *
Marilyn Manson	251375	United States	metal	71 239 *
David Guetta	5557599	France	dance	67 926
The Chainsmokers	580391756	United States	dance	64 813
Kendrick Lamar	368183298	United States	hip-hop/rap	58 415
Jamiroquai	475902	United Kingdom	pop	57 909
Justin Timberlake	398128	United States	pop	53 202
Calvin Harris	201955086	United Kingdom	dance	52 873
Mac DeMarco	501437762	Canada	alternative	48 597 *
Lana Del Rey	464296584	United States	alternative	48 471
Imagine Dragons	358714030	United States	alternative	47 915 *
Adele	262836961	United Kingdom	pop	47 342
The Rolling Stones	1249595	United Kingdom	rock	46 087 *
ZAYN	973181994	United Kingdom	pop	41 899 *
Machine Head	16638695	United States	metal	40 339 *
The Beatles	136975	United Kingdom	rock	39 400 *

Source: MUSO

Top 30 most pirated musicians in DK Denmark
(*) not in the EUR28 top 30

Artist	iTunesID	Artist country	Genre	Piracy (k)
Justin Timberlake	398128	United States	pop	47 634
Ed Sheeran	183313439	United Kingdom	pop	30 065
Aerosmith	115386	United States	rock	24 643 *
Shinedown	1883858	United States	rock	11 111 *
Sia	13493906	Australia	pop	10 450
Liam Payne	366710817	United Kingdom	pop	9 708 *
Ellie Goulding	338264227	United Kingdom	pop	8 314 *
Neil Young	147370	United States	rock	7 677
Take That	13653352	United Kingdom	pop	7 341 *
Janelle Monáe	140777342	United States	R&B/Soul	7 302 *
Luis Fonsi	102834	Puerto Rico	pop	7 224
Alan Walker	1062085272	Norway	electronic	7 153
The Chainsmokers	580391756	United Kingdom	alternative	7 039
Ry Cooder	191009	United States	rock	6 347 *
Taylor Swift	159260351	United States	pop	5 933
Adele	262836961	United Kingdom	pop	5 872
Blue Öyster Cult	472017	United States	metal	5 812 *
Kendrick Lamar	368183298	United States	hip-hop/rap	5 604
Lady Gaga	277293880	United States	pop	5 123 *
Miley Cyrus	137057909	United States	pop	5 091 *
Post Malone	966309175	United States	hip-hop/rap	5 087 *
The Byrds	462274	United States	rock	5 026 *
Marilyn Manson	251375	United States	metal	4 755 *
Royal Blood	809772445	United Kingdom	alternative	4 643 *
Charlie Puth	336249253	United States	pop	4 489
Blondie	1012882	United States	rock	4 052 *
Black Stone Cherry	155784503	United States	rock/metal	3 953 *
Lana Del Rey	464296584	United States	alternative	3 575
Drake	271256	Canada	hip-hop/rap	3 557 *
The Killers	6483093	United States	alternative	3 422

Source: MUSO

Top 30 most pirated musicians in EE Estonia
(* not in the EUR28 top 30)

Artist	iTunesID	Artist country	Genre	Piracy (k)
Adele	262836961	United Kingdom	pop	31 629
Ed Sheeran	183313439	United Kingdom	pop	21 558
Luis Fonsi	102834	Puerto Rico	pop	15 898
Pink Floyd	487143	United Kingdom	rock	15 012
Radiohead	657515	United Kingdom	alternative	13 775 *
Mac DeMarco	501437762	Canada	alternative	12 040 *
Lana Del Rey	464296584	United States	alternative	11 722
Alan Walker	1062085272	Norway	electronic	10 912
Taylor Swift	159260351	United States	pop	9 589
Metallica	3996865	United States	metal	9 274 *
Machine Head	16638695	United States	metal	8 958 *
Ricky Martin	217142	Puerto Rico	pop	8 223
Marilyn Manson	251375	United States	metal	7 068 *
Justin Bieber	320569549	Canada	pop	6 917 *
Inna	269986851	Romania	Dance	6 827 *
Ellie Goulding	338264227	United Kingdom	pop	6 743 *
Chris Brown	95705522	United States	R&B/Soul	6 739 *
Kendrick Lamar	368183298	United States	hip-hop/rap	6 600
Charlie Puth	336249253	United States	pop	6 573
Zara Larsson	570372593	Sweden	pop	6 438 *
Janelle Monáe	140777342	United States	R&B/Soul	6 350 *
Arcade Fire	23203991	Canada	alternative	6 169
Kanye West	2715720	United States	hip-hop/rap	5 988
Michael Jackson	32940	United States	pop	4 958 *
Judas Priest	154707	United Kingdom	metal	4 950 *
Miley Cyrus	137057909	United States	pop	4 642 *
Take That	13653352	United Kingdom	pop	4 344 *
Kacey Musgraves	466044182	United States	country	4 279 *
The Lumineers	350720227	United States	alternative	4 190
The Chainsmokers	580391756	United States	dance	4 036

Source: MUSO

Top 30 most pirated musicians in EL Greece
 (*) not in the EUR28 top 30

Artist	iTunesID	Artist country	Genre	Piracy (k)
Ed Sheeran	183313439	United Kingdom	pop	109 753
Arcade Fire	23203991	Canada	alternative	80 215
Taylor Swift	159260351	United States	pop	80 069
Luis Fonsi	102834	Puerto Rico	pop	67 978
Neil Young	147370	United States	rock	61 044
ZAYN	973181994	United Kingdom	pop	57 922 *
Lana Del Rey	464296584	United States	alternative	52 672
Kendrick Lamar	368183298	United States	hip-hop/rap	48 728
Nick Cave & the Bad Seeds	1698460	Australia	rock	45 230 *
Shakira	889327	Colombia	pop	44 850
Ricky Martin	217142	Puerto Rico	pop	40 695
The Rolling Stones	1249595	United Kingdom	rock	37 173 *
Charlie Puth	336249253	United States	pop	34 495
Cannonball Adderley	120183	United States	jazz	33 078 *
The Clash	522000	United Kingdom	pop	30 511 *
Kasabian	20478838	United Kingdom	pop	29 835 *
The Killers	6483093	United States	alternative	27 275
Selena Gomez	280215834	United States	pop	26 757
St. Vincent	198271209	United States	alternative	25 021 *
Roger Waters	542658	United Kingdom	rock	24 818 *
The Weeknd	479756766	Canada	R&B/Soul	24 568
The Lumineers	350720227	United States	alternative	23 966
DJ Snake	125742557	France	dance	22 955 *
Justin Bieber	320569549	Canada	pop	22 389 *
Machine Head	16638695	United States	metal	22 253 *
Adele	262836961	United Kingdom	pop	22 133
Franz Ferdinand	6596751	United Kingdom	pop	19 616
Beck	312095	United Kingdom	alternative	18 990 *
Kanye West	2715720	United States	hip-hop/rap	18 264
Trivium	47123955	United States	metal	18 124 *

Source: MUSO

Top 30 most pirated musicians in ES Spain
 (*) not in the EUR28 top 30

Artist	iTunesID	Artist country	Genre	Piracy (k)
Luis Fonsi	102834	Puerto Rico	pop	2 764 728
Ed Sheeran	183313439	United Kingdom	pop	1 196 700
Shakira	889327	Colombia	pop	847 473
Ricky Martin	217142	Puerto Rico	pop	640 714
Taylor Swift	159260351	United States	pop	531 727
Carlos Vives & Sebastian Yatra	554369	Colombia	pop latino	487 733 *
Charlie Puth	336249253	United States	pop	391 559
Sia	13493906	Australia	pop	391 487
The Killers	6483093	United States	alternative	358 218
Arcade Fire	23203991	Canada	alternative	335 342
Portugal. The Man	167649475	United States	alternative	311 819
Eric Clapton	123853	United Kingdom	rock	277 098
U2	78500	Ireland	rock	248 304
Justin Timberlake	398128	United States	pop	231 768
Saxon	3632744	United Kingdom	metal	217 631 *
Neil Young	147370	United States	rock	210 976
Christina Aguilera	259398	United States	pop	203 034 *
Adele	262836961	United Kingdom	pop	202 580
Selena Gomez	280215834	United States	pop	196 074
Justin Bieber	320569549	Canada	pop	182 445 *
Bruno Mars	278873078	United States	pop	178 054
Alan Walker	1062085272	Norway	electronic	177 340
Miley Cyrus	137057909	United States	pop	172 450 *
Machine Head	16638695	United States	metal	172 338 *
David Guetta	5557599	France	dance	166 917
Calvin Harris	201955086	United Kingdom	dance	165 824
Enrique Iglesias	90895	Spain	pop	165 068 *
Dua Lipa	1031397873	United Kingdom	pop	158 637 *
Camila Cabello	935727853	Cuba	pop	156 372 *
ZAYN	973181994	United Kingdom	pop	151 089 *

Source: MUSO

Top 30 most pirated musicians in FI Finland
(*) not in the EUR28 top 30

Artist	iTunesID	Artist country	Genre	Piracy (k)
HammerFall	6475279	Sweden	metal	17 245 *
Deep Forest	475718	France	electronic	13 797 *
Ed Sheeran	183313439	United Kingdom	pop	10 867
Roger Daltrey	562708	United Kingdom	rock	10 178 *
Sia	13493906	Australia	pop	10 048
The Rolling Stones	1249595	United Kingdom	rock	6 874 *
Future	128050210	United States	hip-hop/rap	5 446 *
Aretha Franklin	98742	United States	R&B/Soul	5 315 *
Selena Gomez	280215834	United States	pop	4 642
Alan Walker	1062085272	Norway	electronic	4 552
Jason Aldean	63684710	United States	country	4 511 *
St. Vincent	198271209	United States	alternative	3 810 *
Taylor Swift	159260351	United States	pop	3 318
Fall Out Boy	28673423	United States	alternative	3 185 *
Machine Head	16638695	United States	metal	3 184 *
Luis Fonsi	102834	Puerto Rico	pop	3 171
Rita Ora	355898104	United Kingdom	pop	3 073 *
Coldplay	471744	United Kingdom	alternative	3 018
Benjamin Wallfisch	717362032	United Kingdom	soundtrack	2 780 *
Eric Clapton	123853	United Kingdom	rock	2 459
Queen	3296287	United Kingdom	rock	2 377 *
Zara Larsson	570372593	Sweden	pop	2 342 *
ZAYN	973181994	United Kingdom	pop	2 291 *
Django Django	318721881	United Kingdom	alternative	2 217 *
Saxon	3632744	United Kingdom	metal	2 213 *
The Killers	6483093	United States	alternative	2 126
Trivium	47123955	United States	metal	1 908 *
GEORGE EZRA	705812852	United Kingdom	rock	1 863 *
Emerson, Lake & Palmer	27358441	United Kingdom	rock	1 781 *
The Cranberries	122615	United Kingdom	rock	1 689 *

Source: MUSO

Top 30 most pirated musicians in FR France
(*) not in the EUR28 top 30

Artist	iTunesID	Artist country	Genre	Piracy (k)
Jamiroquai	475902	United Kingdom	pop	378 917
Ed Sheeran	183313439	United Kingdom	pop	362 259
Gorillaz	567072	United Kingdom	alternative	231 923 *
Kendrick Lamar	368183298	United States	hip-hop/rap	224 480
J. Cole	73705833	Germany	hip-hop/rap	188 882 *
Kanye West	2715720	United States	hip-hop/rap	167 560
Coldplay	471744	United Kingdom	alternative	166 873
The Weeknd	479756766	Canada	R&B/Soul	164 396
Niska	727527367	France	hip-hop/rap	155 977 *
BEYONCÉ	1419227	United Kingdom	pop	149 533 *
Luis Fonsi	102834	Puerto Rico	pop	119 454
Selena Gomez	280215834	United States	pop	117 428
Shakira	889327	Colombia	pop	99 493
Migos	569925101	United States	hip-hop/rap	94 948 *
Lana Del Rey	464296584	United States	alternative	91 099
Taylor Swift	159260351	United States	pop	88 887
Soprano	62797922	France	hip-hop/rap	88 790 *
Bruno Mars	278873078	United States	pop	86 046
Suicide Squad	290803531	United States	soundtrack	84 735 *
Arcade Fire	23203991	Canada	alternative	83 227
Justin Timberlake	398128	United States	pop	69 191
A Perfect Circle	652503	United States	rock	63 252 *
Sia	13493906	Australia	pop	58 895
Neil Young	147370	United States	rock	57 486
Charlie Puth	336249253	United States	pop	55 550
Michael Jackson	32940	United States	pop	54 439 *
Calvin Harris	201955086	United Kingdom	dance	52 827
Future	128050210	United States	hip-hop/rap	51 962 *
Franz Ferdinand	6596751	United Kingdom	pop	50 320
Maitre Gims	458659054	Congo	hip-hop/rap	46 166 *

Source: MUSO

Top 30 most pirated musicians in HR Croatia
 (*) not in the EUR28 top 30

Artist	iTunesID	Artist country	Genre	Piracy (k)
Arcade Fire	23203991	Canada	alternative	83 877
Neil Young	147370	United States	rock	72 754
Taylor Swift	159260351	United States	pop	54 608
NAV	1200089113	Canada	hip-hop/rap	46 544 *
Nick Cave & the Bad Seeds	1698460	Australia	rock	39 773 *
Led Zeppelin	994656	United Kingdom	rock	36 049 *
Luis Fonsi	102834	Puerto Rico	pop	34 169
Kanye West	2715720	United States	hip-hop/rap	31 957
Ed Sheeran	183313439	United Kingdom	pop	27 989
Kendrick Lamar	368183298	United States	hip-hop/rap	26 987
Portugal. The Man	167649475	United States	alternative	24 961
Ricky Martin	217142	Puerto Rico	pop	23 264
Lana Del Rey	464296584	United States	alternative	23 211
Ry Cooder	191009	United States	rock	23 046 *
Van Morrison	253638	United Kingdom	rock	22 698 *
Future	128050210	United States	hip-hop/rap	22 534 *
David Bowie	551695	United Kingdom	rock	21 274 *
Franz Ferdinand	6596751	United Kingdom	pop	21 126
The Rolling Stones	1249595	United Kingdom	rock	19 134 *
Katy Perry	64387566	United States	pop	18 491 *
ZAYN	973181994	United Kingdom	pop	16 234 *
Art Blakey	331584	United States	jazz	16 087 *
Mac DeMarco	501437762	Canada	alternative	16 006 *
LCD Soundsystem	29525428	United States	electronic	15 208 *
The Weeknd	479756766	Canada	R&B/Soul	15 052
Nirvana	112018	United States	rock	14 818 *
Imagine Dragons	358714030	United States	alternative	14 308 *
Sia	13493906	Australia	pop	13 375
Janelle Monáe	140777342	United States	R&B/Soul	13 368 *
Kasabian	20478838	United Kingdom	pop	13 213 *

Source: MUSO

Top 30 most pirated musicians in HU Hungary
 (*) not in the EUR28 top 30

Artist	iTunesID	Artist country	Genre	Piracy (k)
Charlie Puth	336249253	United States	pop	1 655 605
Luis Fonsi	102834	Puerto Rico	pop	456 566
Ed Sheeran	183313439	United Kingdom	pop	271 125
Taylor Swift	159260351	United States	pop	171 952
Ricky Martin	217142	Puerto Rico	pop	154 409
Alan Walker	1062085272	Norway	electronic	139 206
Lana Del Rey	464296584	United States	alternative	115 994
HammerFall	6475279	Sweden	metal	111 424 *
Enrique Iglesias	90895	Spain	pop	108 872 *
Clean Bandit	463049461	United Kingdom	dance	105 342 *
Dua Lipa	1031397873	United Kingdom	pop	100 517 *
The Lumineers	350720227	United States	alternative	93 601
Selena Gomez	280215834	United States	pop	73 229
Miley Cyrus	137057909	United States	pop	70 910 *
Zara Larsson	570372593	Sweden	pop	70 354 *
DJ Snake	125742557	France	dance	66 722 *
Ellie Goulding	338264227	United Kingdom	pop	66 485 *
Kygo	635806094	Norway	dance	64 312 *
J Balvin	444520760	Colombia	reggaeton	63 552 *
Nick Cave & the Bad Seeds	1698460	Australia	rock	62 641 *
Neil Young	147370	United States	rock	59 006
Rita Ora	355898104	United Kingdom	pop	58 284 *
Kendrick Lamar	368183298	United States	hip-hop/rap	54 163
The Chainsmokers	580391756	United States	dance	52 853
Arcade Fire	23203991	Canada	alternative	52 479
ZAYN	973181994	United Kingdom	pop	51 907 *
Kesha	334854763	United States	pop	51 281 *
Mac DeMarco	501437762	Canada	alternative	50 580 *
Calvin Harris	201955086	United Kingdom	dance	50 234
Benjamin Wallfisch	717362032	United Kingdom	soundtrack	49 786 *

Source: MUSO

Top 30 most pirated musicians in IE Ireland
(* not in the EUR28 top 30)

Artist	iTunesID	Artist country	Genre	Piracy (k)
Ed Sheeran	183313439	United Kingdom	pop	97 261
Arcade Fire	23203991	Canada	alternative	40 840
Kendrick Lamar	368183298	United States	hip-hop/rap	32 253
Taylor Swift	159260351	United States	pop	29 576
Coldplay	471744	United Kingdom	alternative	25 768
Kelly Clarkson	316265	United States	pop	25 732 *
Beck	312095	United Kingdom	alternative	24 868 *
The Script	277228393	United Kingdom	pop	20 800 *
Selena Gomez	280215834	United States	pop	19 747
Clean Bandit	463049461	United Kingdom	dance	17 332 *
Harry Styles	471260289	United Kingdom	pop	17 095 *
Adele	262836961	United Kingdom	pop	16 111
Calvin Harris	201955086	United Kingdom	dance	15 902
The Troggs	37531	United Kingdom	rock	15 579 *
Rita Ora	355898104	United Kingdom	pop	15 297 *
LCD Soundsystem	29525428	United States	electronic	13 243 *
Miley Cyrus	137057909	United States	pop	11 961 *
Shakira	889327	Colombia	pop	11 932
Kanye West	2715720	United States	hip-hop/rap	11 898
Pitch Perfect	590247747	United States	soundtrack	10 797 *
Kacey Musgraves	466044182	United States	country	10 013 *
Justin Timberlake	398128	United States	pop	9 418
Justin Bieber	320569549	Canada	pop	9 265 *
Pink	4488522	United States	pop	9 031 *
The Beatles	136975	United Kingdom	rock	8 898 *
The Lumineers	350720227	United States	alternative	8 209
Bruno Mars	278873078	United States	pop	8 151
Prince	155814	United States	R&B/Soul	7 479 *
Rhye	490808665	Denmark	electronic	7 341 *
DJ Snake	125742557	France	dance	7 276 *

Source: MUSO

Top 30 most pirated musicians in IT Italy
(* not in the EUR28 top 30)

Artist	iTunesID	Artist country	Genre	Piracy (k)
Ricky Martin	217142	Puerto Rico	pop	2 824 205
Ed Sheeran	183313439	United Kingdom	pop	2 735 117
Bruno Mars	278873078	United States	pop	2 464 944
Charlie Puth	336249253	United States	pop	1 272 897
Luis Fonsi	102834	Puerto Rico	pop	1 123 204
Alberto Fortis	26367920	Italy	pop	608 519 *
Neil Young	147370	United States	rock	561 105
Shakira	889327	Colombia	pop	478 880
Eric Clapton	123853	United Kingdom	rock	455 537
Justin Timberlake	398128	United States	pop	447 772
Franz Ferdinand	6596751	United Kingdom	pop	430 240
Pink Floyd	487143	United Kingdom	rock	397 718
Taylor Swift	159260351	United States	pop	393 406
Art Blakey	331584	United States	jazz	381 300 *
The Cranberries	122615	United Kingdom	rock	374 951 *
Arcade Fire	23203991	Canada	alternative	338 230
David Bowie	551695	United Kingdom	rock	327 470 *
Pharrell Williams	1361068	United States	hip-hop/rap	294 623 *
Kendrick Lamar	368183298	United States	hip-hop/rap	285 739
U2	78500	Ireland	rock	284 939
Simple Minds	645533	United Kingdom	rock	284 434 *
Alan Walker	1062085272	Norway	electronic	274 881
Sia	13493906	Australia	pop	272 983
Morceeba	161916	United Kingdom	electronic	272 929 *
Coldplay	471744	United Kingdom	alternative	260 237
The Chainsmokers	580391756	United States	dance	257 171
Roger Waters	542658	United Kingdom	rock	247 317 *
Calvin Harris	201955086	United Kingdom	dance	245 862
The Lumineers	350720227	United States	alternative	224 011
Enrique Iglesias	90895	Spain	pop	221 552 *

Source: MUSO

Top 30 most pirated musicians in LT Lithuania
(* not in the EUR28 top 30)

Artist	iTunesID	Artist country	Genre	Piracy (k)
Ed Sheeran	183313439	United Kingdom	pop	38 509
The Lumineers	350720227	United States	alternative	35 733
Justin Timberlake	398128	United States	pop	33 638
Adele	262836961	United Kingdom	pop	21 406
Lana Del Rey	464296584	United States	alternative	19 227
The Chainsmokers	580391756	United States	dance	18 002
Shinedown	1883858	United States	rock	14 142 *
Kasabian	20478838	United Kingdom	pop	13 612 *
Kanye West	2715720	United States	hip-hop/rap	13 063
Simply Red	163002	United States	pop	12 541 *
Drake	271256	Canada	hip-hop/rap	12 407 *
The Rolling Stones	1249595	United Kingdom	rock	12 210 *
ZAYN	973181994	United Kingdom	pop	12 103 *
Calvin Harris	201955086	United Kingdom	dance	11 630
Marilyn Manson	251375	United States	metal	11 369 *
Taylor Swift	159260351	United States	pop	10 893
Post Malone	966309175	United States	hip-hop/rap	10 558 *
Bruno Mars	278873078	United States	pop	10 323
Zara Larsson	570372593	Sweden	pop	10 096 *
Brandi Carlile	64387579	United States	rock	9 956 *
Ricky Martin	217142	Puerto Rico	pop	9 770
Luis Fonsi	102834	Puerto Rico	pop	9 566
Saxon	3632744	United Kingdom	metal	9 378 *
Coldplay	471744	United Kingdom	alternative	9 268
David Bowie	551695	United Kingdom	rock	8 708 *
Arcade Fire	23203991	Canada	alternative	8 413
Anvil	129779577	Canada	metal	8 308 *
Robbie Williams	17973	United Kingdom	pop	7 926 *
UNKLE	133444	United Kingdom	electronic	7 859 *
Judas Priest	154707	United Kingdom	metal	7 438 *

Source: MUSO

Top 30 most pirated musicians in LU Luxembourg
(* not in the EUR28 top 30)

Artist	iTunesID	Artist country	Genre	Piracy (k)
Luis Fonsi	102834	Puerto Rico	pop	92 677
Arcade Fire	23203991	Canada	alternative	23 030
Alan Walker	1062085272	Norway	electronic	17 795
Ed Sheeran	183313439	United Kingdom	pop	15 327
Marilyn Manson	251375	United States	metal	7 820 *
Lana Del Rey	464296584	United States	alternative	6 973
Taylor Swift	159260351	United States	pop	6 807
The Weeknd	479756766	Canada	R&B/Soul	6 604
Justin Timberlake	398128	United States	pop	5 647
Shakira	889327	Colombia	pop	5 103
Kanye West	2715720	United States	hip-hop/rap	4 439
Calvin Harris	201955086	United Kingdom	dance	4 209
J. Cole	73705833	Germany	hip-hop/rap	3 786 *
Death Cab for Cutie	5448636	United States	alternative	3 748 *
Nightmares On Wax	39883158	United Kingdom	electronic	3 669 *
Selena Gomez	280215834	United States	pop	3 666
Migos	569925101	United States	hip-hop/rap	3 662 *
Jamiroquai	475902	United Kingdom	pop	3 649
Jose Gonzalez	153417030	Sweden	indie pop	3 461 *
Bruno Mars	278873078	United States	pop	3 116
Whitney Houston	13952	United States	pop	3 056 *
Ellie Goulding	338264227	United Kingdom	pop	2 887 *
Justin Bieber	320569549	Canada	pop	2 872 *
Post Malone	966309175	United States	hip-hop/rap	2 689 *
A Perfect Circle	652503	United States	rock	2 606 *
Soviet Suprem	734364005	France	rock	2 582 *
Ry Cooder	191009	United States	rock	2 508 *
Bruce Springsteen	178834	United States	rock	2 031 *
Sia	13493906	Australia	pop	1 944
Coldplay	471744	United Kingdom	alternative	1 902

Source: MUSO

Top 30 most pirated musicians in LV Latvia
(*) not in the EUR28 top 30

Artist	iTunesID	Artist country	Genre	Piracy (k)
Michael Jackson	32940	United States	pop	82 815 *
Ed Sheeran	183313439	United Kingdom	pop	55 409
Gorillaz	567072	United Kingdom	alternative	44 262 *
Adele	262836961	United Kingdom	pop	44 070
Coldplay	471744	United Kingdom	alternative	39 568
Linkin Park	148662	United States	rock	37 084 *
Maroon 5	1798556	United States	pop	34 757 *
The Killers	6483093	United States	alternative	31 257
David Guetta	5557599	France	dance	27 664
Shakira	889327	Colombia	pop	24 469
Beck	312095	United Kingdom	alternative	21 785 *
Drake	271256	Canada	hip-hop/rap	20 601 *
Red Hot Chili Peppers	889780	United States	alternative	20 034 *
Marilyn Manson	251375	United States	metal	19 380 *
Inna	269986851	Romania	Dance	18 494 *
Arcade Fire	23203991	Canada	alternative	18 362
Taylor Swift	159260351	United States	pop	17 584
Bruno Mars	278873078	United States	pop	16 775
Sia	13493906	Australia	pop	16 438
Kanye West	2715720	United States	hip-hop/rap	14 003
ZAYN	973181994	United Kingdom	pop	13 389 *
LP	516169807	United States	alternative	12 307 *
Lana Del Rey	464296584	United States	alternative	12 152
Kendrick Lamar	368183298	United States	hip-hop/rap	11 943
Clean Bandit	463049461	United Kingdom	dance	11 415 *
The Lumineers	350720227	United States	alternative	11 344
Iron Maiden	546381	United Kingdom	metal	11 268 *
J. Cole	73705833	Germany	hip-hop/rap	11 162 *
Luis Fonsi	102834	Puerto Rico	pop	11 045
Miley Cyrus	137057909	United States	pop	10 903 *

Source: MUSO

Top 30 most pirated musicians in MT Malta
(* not in the EUR28 top 30)

Artist	iTunesID	Artist country	Genre	Piracy (k)
Ed Sheeran	183313439	United Kingdom	pop	52 131
Dua Lipa	1031397873	United Kingdom	pop	16 563 *
Ricky Martin	217142	Puerto Rico	pop	12 624
Charlie Puth	336249253	United States	pop	11 944
Post Malone	966309175	United States	hip-hop/rap	10 818 *
The Chainsmokers	580391756	United States	dance	10 763
Bruno Mars	278873078	United States	pop	9 936
Sia	13493906	Australia	pop	9 875
Selena Gomez	280215834	United States	pop	9 787
Clean Bandit	463049461	United Kingdom	dance	9 090 *
Taylor Swift	159260351	United States	pop	8 567
Rita Ora	355898104	United Kingdom	pop	7 674 *
Calvin Harris	201955086	United Kingdom	dance	7 475
Kygo	635806094	Norway	dance	6 949 *
Alan Walker	1062085272	Norway	electronic	6 891
Martin Garrix	430932944	Netherlands	dance	6 799 *
DJ Snake	125742557	France	dance	6 596 *
Rosemary Clooney	192670	United States	jazz	6 049 *
Luis Fonsi	102834	Puerto Rico	pop	5 641
LCD Soundsystem	29525428	United States	electronic	5 602 *
Miley Cyrus	137057909	United States	pop	5 447 *
Sam Smith	156488786	United Kingdom	pop	5 088 *
Zara Larsson	570372593	Sweden	pop	4 936 *
The Killers	6483093	United States	alternative	4 778
Justin Bieber	320569549	Canada	pop	4 582 *
Lana Del Rey	464296584	United States	alternative	4 319
Imagine Dragons	358714030	United States	alternative	4 297 *
Kendrick Lamar	368183298	United States	hip-hop/rap	4 294
Portugal. The Man	167649475	United States	alternative	4 065
Kelly Clarkson	316265	United States	pop	3 437 *

Source: MUSO

Top 30 most pirated musicians in NL Netherlands
(*) not in the EUR28 top 30

Artist	iTunesID	Artist country	Genre	Piracy (k)
Charlie Puth	336249253	United States	pop	296 749
Bruno Mars	278873078	United States	pop	278 894
Luis Fonsi	102834	Puerto Rico	pop	217 712
Ed Sheeran	183313439	United Kingdom	pop	212 775
Justin Timberlake	398128	United States	pop	119 154
Kacey Musgraves	466044182	United States	country	85 267 *
Arcade Fire	23203991	Canada	alternative	79 091
Pink Floyd	487143	United Kingdom	rock	76 039
The Script	277228393	United Kingdom	pop	74 285 *
Adele	262836961	United Kingdom	pop	64 910
Kendrick Lamar	368183298	United States	hip-hop/rap	63 834
Neil Young	147370	United States	rock	63 399
Taylor Swift	159260351	United States	pop	63 207
David Guetta	5557599	France	dance	52 629
Zara Larsson	570372593	Sweden	pop	47 982 *
Ricky Martin	217142	Puerto Rico	pop	43 402
The Chainsmokers	580391756	United States	dance	42 283
Kygo	635806094	Norway	dance	40 501 *
Calvin Harris	201955086	United Kingdom	dance	39 805
Drake	271256	Canada	hip-hop/rap	39 677 *
David Bowie	551695	United Kingdom	rock	37 670 *
Coldplay	471744	United Kingdom	alternative	36 599
The Weeknd	479756766	Canada	R&B/Soul	36 132
Miley Cyrus	137057909	United States	pop	35 888 *
The Coral	2035343	United Kingdom	alternative	35 790 *
Bonnie Tyler	549450	United Kingdom	pop	35 285 *
Sia	13493906	Australia	pop	35 156
Kanye West	2715720	United States	hip-hop/rap	34 816
Pink	4488522	United States	pop	34 024 *
Christina Aguilera	259398	United States	pop	33 370 *

Source: MUSO

Top 30 most pirated musicians in PL Poland
(*) not in the EUR28 top 30

Artist	iTunesID	Artist country	Genre	Piracy (k)
Ed Sheeran	183313439	United Kingdom	pop	272 848
Luis Fonsi	102834	Puerto Rico	pop	257 129
David Guetta	5557599	France	dance	145 328
Lana Del Rey	464296584	United States	alternative	123 127
Benjamin Wallfisch	717362032	United Kingdom	soundtrack	114 166 *
Alan Walker	1062085272	Norway	electronic	111 293
Taylor Swift	159260351	United States	pop	99 510
Marilyn Manson	251375	United States	metal	93 358 *
Kygo	635806094	Norway	dance	85 255 *
Ricky Martin	217142	Puerto Rico	pop	77 398
Neil Young	147370	United States	rock	75 627
Gorillaz	567072	United Kingdom	alternative	73 586 *
Adele	262836961	United Kingdom	pop	70 165
The Chainsmokers	580391756	United States	dance	64 445
Arcade Fire	23203991	Canada	alternative	63 772
The Lumineers	350720227	United States	alternative	61 299
Portugal. The Man	167649475	United States	alternative	61 213
The Killers	6483093	United States	alternative	59 795
The Weeknd	479756766	Canada	R&B/Soul	58 878
Mac DeMarco	501437762	Canada	alternative	57 641 *
Beck	312095	United Kingdom	alternative	56 723 *
Calvin Harris	201955086	United Kingdom	dance	55 653
Rita Ora	355898104	United Kingdom	pop	51 025 *
David Bowie	551695	United Kingdom	rock	49 372 *
Trivium	47123955	United States	metal	47 817 *
Shinedown	1883858	United States	rock	47 730 *
Sia	13493906	Australia	pop	47 575
Nick Cave & the Bad Seeds	1698460	Australia	rock	46 677 *
Selena Gomez	280215834	United States	pop	46 580
Ariana Grande	412778295	United States	pop	44 923 *

Source: MUSO

Top 30 most pirated musicians in PT Portugal
(*) not in the EUR28 top 30

Artist	iTunesID	Artist country	Genre	Piracy (k)
Luis Fonsi	102834	Puerto Rico	pop	178 380
Arcade Fire	23203991	Canada	alternative	147 805
Ed Sheeran	183313439	United Kingdom	pop	116 391
Aerosmith	115386	United States	rock	108 700 *
Justin Timberlake	398128	United States	pop	93 764
Taylor Swift	159260351	United States	pop	63 502
Ricky Martin	217142	Puerto Rico	pop	63 425
Kendrick Lamar	368183298	United States	hip-hop/rap	60 156
New Politics	367539979	Denmark	alternative	58 244 *
Shakira	889327	Colombia	pop	54 202
Mac DeMarco	501437762	Canada	alternative	49 318 *
Lana Del Rey	464296584	United States	alternative	48 516
Prince	155814	United States	R&B/Soul	45 116 *
The Rolling Stones	1249595	United Kingdom	rock	36 487 *
The Chainsmokers	580391756	United States	dance	35 954
Franz Ferdinand	6596751	United Kingdom	pop	32 002
Bruno Mars	278873078	United States	pop	31 923
Beck	312095	United Kingdom	alternative	31 525 *
Neil Young	147370	United States	rock	31 322
Selena Gomez	280215834	United States	pop	28 479
Charlie Puth	336249253	United States	pop	27 258
Machine Head	16638695	United States	metal	25 598 *
Zara Larsson	570372593	Sweden	pop	25 377 *
St. Vincent	198271209	United States	alternative	24 282 *
Calvin Harris	201955086	United Kingdom	dance	24 180
Future	128050210	United States	hip-hop/rap	23 209 *
Nick Cave & the Bad Seeds	1698460	Australia	rock	22 845 *
The Killers	6483093	United States	alternative	22 348
Demi Lovato	280215821	United States	pop	22 340 *
Carlos Vives & Sebastian Yatra	554369	Colombia	pop latino	21 918 *

Source: MUSO

Top 30 most pirated musicians in RO Romania
 (*) not in the EUR28 top 30

Artist	iTunesID	Artist country	Genre	Piracy (k)
The Lumineers	350720227	United States	alternative	204 921
Ed Sheeran	183313439	United Kingdom	pop	184 265
Arcade Fire	23203991	Canada	alternative	111 536
Taylor Swift	159260351	United States	pop	102 042
Lana Del Rey	464296584	United States	alternative	90 082
Luis Fonsi	102834	Puerto Rico	pop	88 215
Ricky Martin	217142	Puerto Rico	pop	61 355
Bruce Springsteen	178834	United States	rock	59 872 *
Pink Floyd	487143	United Kingdom	rock	59 352
Kanye West	2715720	United States	hip-hop/rap	54 384
The Weeknd	479756766	Canada	R&B/Soul	53 980
The Script	277228393	United Kingdom	pop	50 407 *
Blind Faith	123848	United Kingdom	rock	50 082 *
Selena Gomez	280215834	United States	pop	48 961
Kendrick Lamar	368183298	United States	hip-hop/rap	47 147
Sia	13493906	Australia	pop	46 261
Coldplay	471744	United Kingdom	alternative	45 452
The Killers	6483093	United States	alternative	42 203
The Chainsmokers	580391756	United States	dance	41 518
Calvin Harris	201955086	United Kingdom	dance	39 902
ZAYN	973181994	United Kingdom	pop	37 343 *
Marilyn Manson	251375	United States	metal	35 962 *
Rihanna	63346553	Barbados	pop	32 843 *
Post Malone	966309175	United States	hip-hop/rap	32 757 *
Benjamin Wallfisch	717362032	United Kingdom	soundtrack	31 586 *
Judas Priest	154707	United Kingdom	metal	31 492 *
Alan Walker	1062085272	Norway	electronic	31 095
Justin Timberlake	398128	United States	pop	30 345
Adele	262836961	United Kingdom	pop	29 574
Leonard Cohen	485677	Canada	pop	29 388 *

Source: MUSO

Top 30 most pirated musicians in SE Sweden
(* not in the EUR28 top 30)

Artist	iTunesID	Artist country	Genre	Piracy (k)
Zara Larsson	570372593	Sweden	pop	33 327 *
Eric Dolphy	2977380	United States	jazz	29 157 *
Ricky Martin	217142	Puerto Rico	pop	25 107
Luis Fonsi	102834	Puerto Rico	pop	24 209
Ed Sheeran	183313439	United Kingdom	pop	23 555
Shinedown	1883858	United States	rock	21 730 *
Alan Walker	1062085272	Norway	electronic	20 952
Taylor Swift	159260351	United States	pop	20 202
Simply Red	163002	United States	pop	18 734 *
Kacey Musgraves	466044182	United States	country	16 786 *
Black Stone Cherry	155784503	United States	rock/metal	16 293 *
Calvin Harris	201955086	United Kingdom	dance	12 508
Nicky Jam	33987470	United States	reggaeton	11 702 *
Ry Cooder	191009	United States	rock	11 510 *
Shakira	889327	Colombia	pop	9 564
Janelle Monáe	140777342	United States	R&B/Soul	9 556 *
Kendrick Lamar	368183298	United States	hip-hop/rap	9 319
The Chainsmokers	580391756	United States	dance	9 236
Sia	13493906	Australia	pop	8 969
Ellie Goulding	338264227	United Kingdom	pop	8 693 *
HammerFall	6475279	Sweden	metal	8 272 *
Adele	262836961	United Kingdom	pop	8 113
Simple Minds	645533	United Kingdom	rock	7 968 *
Neil Young	147370	United States	rock	7 865
Coldplay	471744	United Kingdom	alternative	7 814
First Aid Kit	370729254	Sweden	alternative	6 928 *
Kanye West	2715720	United States	hip-hop/rap	6 846
Machine Head	16638695	United States	metal	6 722 *
Lana Del Rey	464296584	United States	alternative	6 598
BEYONCÉ	1419227	United Kingdom	pop	6 555 *

Source: MUSO

Top 30 most pirated musicians in SI Slovenia
(* not in the EUR28 top 30)

Artist	iTunesID	Artist country	Genre	Piracy (k)
Luis Fonsi	102834	Puerto Rico	pop	85 863
Ed Sheeran	183313439	United Kingdom	pop	59 270
The Lumineers	350720227	United States	alternative	48 254
Taylor Swift	159260351	United States	pop	40 676
Arcade Fire	23203991	Canada	alternative	30 548
Charlie Puth	336249253	United States	pop	30 203
Alan Walker	1062085272	Norway	electronic	26 794
Sia	13493906	Australia	pop	24 998
Neil Young	147370	United States	rock	24 019
ZAYN	973181994	United Kingdom	pop	23 838 *
Rita Ora	355898104	United Kingdom	pop	23 463 *
Lana Del Rey	464296584	United States	alternative	19 758
Rihanna	63346553	Barbados	pop	19 041 *
Nick Cave & the Bad Seeds	1698460	Australia	rock	18 902 *
St. Vincent	198271209	United States	alternative	17 154 *
Zara Larsson	570372593	Sweden	pop	15 795 *
Clean Bandit	463049461	United Kingdom	dance	15 777 *
Ellie Goulding	338264227	United Kingdom	pop	13 856 *
Miley Cyrus	137057909	United States	pop	13 358 *
Roger Waters	542658	United Kingdom	rock	13 083 *
Imagine Dragons	358714030	United States	alternative	12 684 *
Enrique Iglesias	90895	Spain	pop	12 211 *
Judas Priest	154707	United Kingdom	metal	10 861 *
The Chainsmokers	580391756	United States	dance	10 785
Benjamin Wallfisch	717362032	United Kingdom	soundtrack	10 708 *
Kanye West	2715720	United States	hip-hop/rap	10 220
Justin Bieber	320569549	Canada	pop	10 033 *
Future	128050210	United States	hip-hop/rap	9 761 *
Robbie Williams	17973	United Kingdom	pop	9 329 *
Dua Lipa	1031397873	United Kingdom	pop	9 300 *

Source: MUSO

Top 30 most pirated musicians in SK Slovakia
(* not in the EUR28 top 30)

Artist	iTunesID	Artist country	Genre	Piracy (k)
Ricky Martin	217142	Puerto Rico	pop	61 005
The Cranberries	122615	United Kingdom	rock	53 765 *
Ed Sheeran	183313439	United Kingdom	pop	52 349
Luis Fonsi	102834	Puerto Rico	pop	38 869
Zara Larsson	570372593	Sweden	pop	26 759 *
Trivium	47123955	United States	metal	25 057 *
Charlie Puth	336249253	United States	pop	24 673
Selena Gomez	280215834	United States	pop	23 028
Alan Walker	1062085272	Norway	electronic	22 908
Ellie Goulding	338264227	United Kingdom	pop	22 533 *
Christina Aguilera	259398	United States	pop	22 454 *
Taylor Swift	159260351	United States	pop	21 458
Sia	13493906	Australia	pop	18 530
Clean Bandit	463049461	United Kingdom	dance	17 036 *
David Guetta	5557599	France	dance	15 569
Kygo	635806094	Norway	dance	14 816 *
Bruno Mars	278873078	United States	pop	14 695
Beth Hart	155294	United States	rock	14 268 *
Machine Head	16638695	United States	metal	14 078 *
Loudness	82625317	Japan	metal	12 321 *
Kanye West	2715720	United States	hip-hop/rap	12 279
Kasabian	20478838	United Kingdom	pop	12 240 *
Rita Ora	355898104	United Kingdom	pop	11 916 *
Ry Cooder	191009	United States	rock	11 540 *
Adele	262836961	United Kingdom	pop	11 399
Lana Del Rey	464296584	United States	alternative	11 218
Marilyn Manson	251375	United States	metal	10 324 *
Miley Cyrus	137057909	United States	pop	9 910 *
ZAYN	973181994	United Kingdom	pop	9 461 *
Robbie Williams	17973	United Kingdom	pop	9 177 *

Source: MUSO

Top 30 most pirated musicians in UK United Kingdom
 (*) not in the EUR28 top 30

Artist	iTunesID	Artist country	Genre	Piracy (k)
Ed Sheeran	183313439	United Kingdom	pop	814 623
Taylor Swift	159260351	United States	pop	336 626
Justin Timberlake	398128	United States	pop	276 685
Arcade Fire	23203991	Canada	alternative	235 246
The Chainsmokers	580391756	United States	dance	223 229
Luis Fonsi	102834	Puerto Rico	pop	213 066
Kendrick Lamar	368183298	United States	hip-hop/rap	183 530
Kanye West	2715720	United States	hip-hop/rap	165 634
Kasabian	20478838	United Kingdom	pop	147 401 *
Zara Larsson	570372593	Sweden	pop	131 119 *
Calvin Harris	201955086	United Kingdom	dance	129 400
The Script	277228393	United Kingdom	pop	123 458 *
Drake	271256	Canada	hip-hop/rap	121 449 *
Pink	4488522	United States	pop	120 140 *
David Guetta	5557599	France	dance	110 427
Kelly Clarkson	316265	United States	pop	108 438 *
Charlie Puth	336249253	United States	pop	105 851
Lana Del Rey	464296584	United States	alternative	104 476
Portugal. The Man	167649475	United States	alternative	104 357
Jesse Colin Young	2708175	United States	rock	101 020 *
LCD Soundsystem	29525428	United States	electronic	100 247 *
Rita Ora	355898104	United Kingdom	pop	98 416 *
Adele	262836961	United Kingdom	pop	98 306
The Lumineers	350720227	United States	alternative	97 595
Post Malone	966309175	United States	hip-hop/rap	97 266 *
Sam Smith	156488786	United Kingdom	pop	97 161 *
Selena Gomez	280215834	United States	pop	94 891
Coldplay	471744	United Kingdom	alternative	91 925
The Killers	6483093	United States	alternative	87 736
Mac DeMarco	501437762	Canada	alternative	87 709 *

Source: MUSO

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