

## To block or not to block?

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*An investigation into whether or not young people studying in higher education in the Netherlands have modified their download behaviour, in the light of a legal obligation to block The Pirate Bay (TPB) by Dutch Internet Service Providers (ISPs). In the lawsuit, it is argued that a blockade by the ISPs would be an effective measure to stop downloading from The Pirate Bay. In this study the target group was asked if they think that their download behaviour is modified by the blockade.*

## Reason for the research

Copyright owners have been combating copyright infringement since the discovery of the copying process (paper, tape, digital). With the access to better tools, practice has become that uncontrolled copies of copyrighted work are widely made and distributed. Summoning direct copyright infringers to stop their practice has been in place for a number of years. A relatively recent development in the enforcement of copyright involves Internet Service Providers (ISPs) in the enforcement, by forcing them to block notorious copyright infringers.

In England, the High Court has ordered the British ISPs to block copyright infringing sites as follows:

- In July and October 2011, ISP BT was ordered to block Newzbin2 (EWHC 1981, EWHC 2714);
- In April 2012, ISPs Sky, BT, Everything Everywhere, TalkTalk, Virgin Media and Telefónica were ordered to block The Pirate Bay (EWHC 268);
- In February 2013, the same ISPs were ordered to block KAT (Kickass Torrents), H33T and Fenopy (EWHC 379).

In January 2012, the Dutch ISPs Ziggo and XS4ALL were ordered to block The Pirate Bay (LJN BV0549), in May 2012 the other main ISPs in The Netherlands were ordered to block The Pirate Bay in summary proceedings (LJN BW5387). In July 2012 the Austrian High Court asked prejudicial questions about blocking to the European Court of Justice (C-314/12).

To summarise, we see a recent trend of court orders to block piracy websites. In order to investigate whether this blocking works, we asked the public whether they changed their download behaviour following a court order to block The Pirate Bay. The research was done in The Netherlands, the results were compared to the results of a recent study done in England.

## Research methods

At present The Pirate Bay is the only copyright infringer who is blocked by Dutch ISPs. The Pirate Bay is an organisation that was ordered to cease its activities in several European countries. With the blocking orders of January 2012 and May 2012, the combined providers that service a total of 90% of the Dutch consumer market for Internet access are blocking The Pirate Bay (OPTA 2011).

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The field research was conducted in October 2012. To answer the question whether the consumer's download behaviour has changed, a part of the population that was expected to be easily accessible and frequently involved in downloading was questioned: students in higher education. The main research question was: "*Are people between 18 and 28 years in the Netherlands downloading less copyrighted material from illegal sources after the blockade of The Pirate Bay?*". Other research has shown that when people grow older they tend to download less from illegal sources (Dilmeri et al 2011).

In The Netherlands downloading of music or movies from an illegal source (i.e. copyright infringement ) is not illegal per se, because it is argued that downloading is part of the home copy arrangement (we will not discuss the argument in this article). We therefore think that Dutch students will have little hesitations to answer the survey questions honestly.

A pilot survey was done with 23 students of the Academy of ICT & Media at The Hague University, location Zoetermeer. The results of this pilot survey were used to tighten the survey questions, the answers of the pilot study are not used in the final processing of the data. We chose a random sample by visiting three branches of colleges (The Hague University in The Hague and Delft, and Utrecht University).

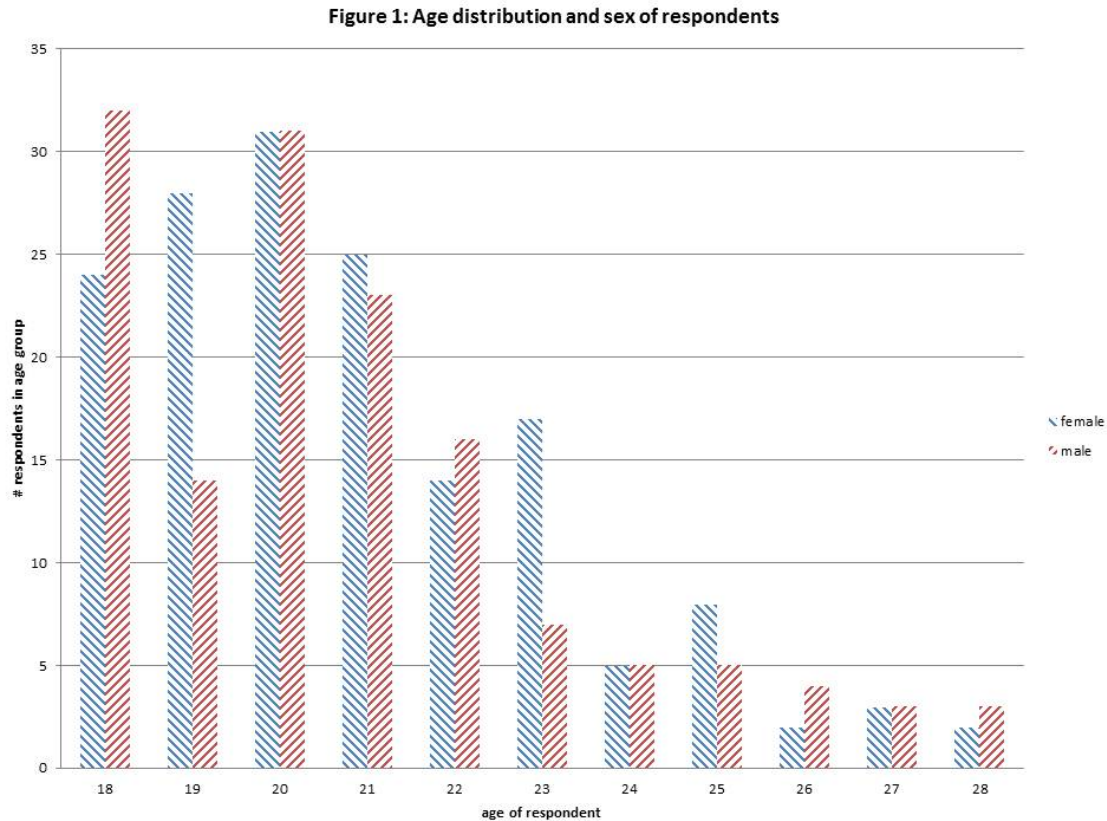
The survey was first issued digitally, but the responses were disappointing (15 completed surveys). Therefore the remainder of the results were collected by personally approaching students outside the mentioned colleges. The colleges did not cooperate, for this reason the survey was conducted in the public space in front of the entrance of each institution.

Of the 321 completed surveys, 19 surveys were removed from the analysis of the results because the respondents were not within the population or because the survey was not fully completed. The remaining 302 surveys were suitable for further analysis (15 digital, 287 paper surveys). The survey results were analysed using Excel.

Besides the survey we interviewed a number of stakeholders (XS4all, Foundation Brein, Dutch Consumers Association) about their opinion whether such a prohibition is effective in the sense that people will refrain from downloading from an illegal source. XS4all's press officer was interviewed, Foundation Brein has replied in writing to a number of questions. The Consumers Association campaign leader digital issues was interviewed. The interviews consisted of semi-structured interviews.

## **Analysis of the results**

Of the completed surveys, 143 respondents are male and 159 female. The age distribution shows that most respondents are in the age group 18-23 (Figure 1). The distribution of women (53%) versus men (47%) shows a reasonable similarity to the overall population studying in higher education: 54% female and 46% male in 2010 (CBS 2011).



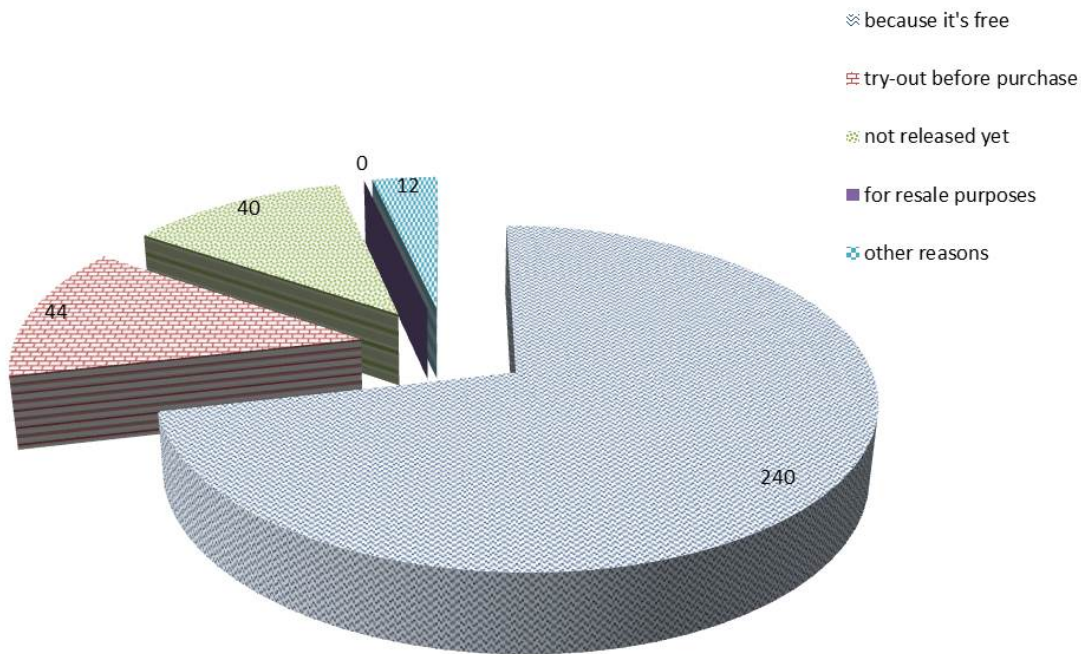
The respondents indicated a wide variety of Internet Service Providers (Table 1). The distribution does not correspond to the market shares of the ISPs in the entire Dutch market (OPTA 2011). Since then KPN's market share continued to grow (OPTA 2012, p.13). In this study, KPN's market share is significantly underrepresented, the results can therefore not be held representative for the respective providers with regard to the market share in download behaviour.

ISP	Absolute (survey)	Percentage (survey)	Percentage (OPTA 2011)
KPN	89	29	40-45
Ziggo	103	34	25-30
UPC	33	11	10-15
T-Mobile	22	7	0-5
Tele2	16	5	0-5
XS4all	9	3	0-5
other	31	10	-
total	303	100	100

**Table 1: the ISPs of the respondents compared by market share. Other ISPs mentioned: Telfort (7), Caiway (6), Kennisglas (2), regional provider (2), XMS (2), Vodafone (2), Alice (1), Speedlina (1), Online (1) Lijbrandt (1), don't know (6). One of the respondents filled in two providers, for his reason a total number of 303 respondents shows in this table.**

The respondents were asked whether they ever downloaded for free and why they did that. The reasons for downloading for free given by the respondents are as follows (Figure 2).

Figure 2: reasons to download from an illegal source, several answers were possible. "Other" arguments were mainly "ease of use" and variations of "because it is free / cheap".



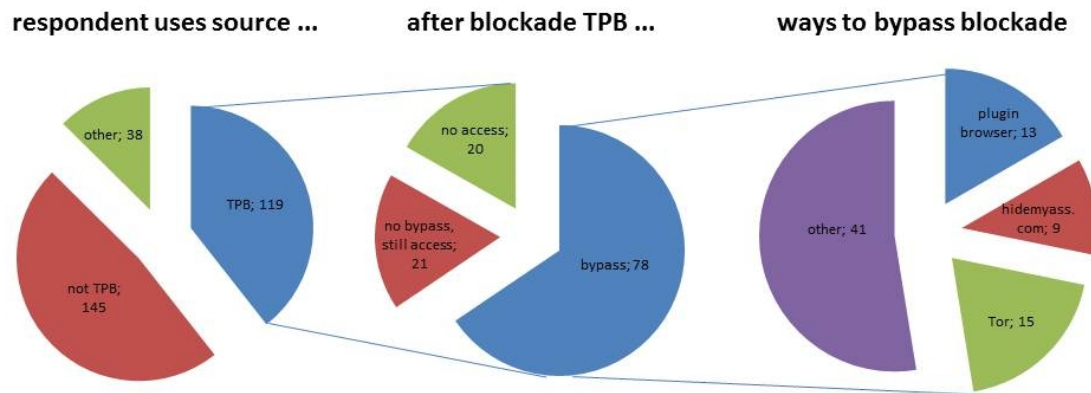
Most respondents download because it is for free (240), while a minority does it to try first before making a purchase, or due to non-availability of legal alternatives. The effect of try and then buy is also mentioned in other studies, in 2102 20.1% of respondents indicated this for music and 22.8% for films or series (IViR 2012). It is not known how often the respondents have actually purchased a product after downloading it from an illegal source first.

When trying to compare our results with other research, we run into the problem that the questions asked do not always allow for a direct comparison. The study by IViR and Center Data (IViR 2012) in fact did not ask about the amount that the respondent was downloading, but about the last time something was downloaded and how that was done ((web) shop, legally paid or unpaid, from an illegal source). There is some relation between the last time someone downloaded something and the amount of downloading, as this is not a straightforward relationship a direct comparison cannot be made.

The Systems and Network Engineering research group of the University of Amsterdam (UvA) studied music downloading via The Pirate Bay in April 2012. This group repeated the sampling that was done on behalf of the complaining party. The aim was to observe whether the blockade that was ordered in January actually changed download behaviour. The conclusion from this study is that “[t]he claim (hypothesis) that the imposition of a blockade of The Pirate Bay on Ziggo and XS4ALL leads to a decrease in copyright infringement by their subscribers via Bittorrent exchange, must be rejected. There is no significant measurable effect of this measure.” (SNE 2012, p. 18).

In our study we made only a distinction between downloading music, video and games, or a combination thereof. We made no distinction between downloading movies and TV series, both of which fall under the video format.

Of all respondents who indicated they sometimes download (302), 263 downloaded from illegal sources and 39 only from legitimate sources. Of all downloaders 39% (119) uses The Pirate Bay, 48% (145) uses other sources. Almost all respondents who use The Pirate Bay are aware of the blockade (99%), over two thirds (66%) of them use of techniques to circumvent the blockade and thus still get access to The Pirate Bay. 18% do not notice the blockade and have access to The Pirate Bay anyway, 17% no longer have no access to The Pirate Bay. The techniques used to circumvent the blockade differ, there is no clear leader in this regard (Figure 3).



**Figure 3: The Pirate Bay (TPB) is still the most widely used source by our respondents to download copyrighted material. Various techniques are used to bypass the blockade. In this figure the corresponding category is further split up in subcategories, with the corresponding numbers.**

Category “other” bypass techniques named were the use of a proxy (14 times), the use of another site (8 times) and [www.ikwilthepiratebay.nl](http://www.ikwilthepiratebay.nl) (3 times).<sup>2</sup> In addition, a number of other sites were mentioned, of which it is not clear whether it is a proxy or not.

Finally, we asked whether the respondents who use The Pirate Bay (119) are using it to download more, less or the same amount after the imposition of the blockade. This is again broken down by the categories of music, video and games. In total, nearly three-quarters of respondents in their own opinion download the same amount (74%), a minority downloads less (22%) or even more (4%). In order to find whether the respondents had (statistically significant) changed their download behaviour, we made use of dummy variables which were consequently removed from the equation. The first variable was that of download frequency: respondents were asked how much (number of downloads) they estimated they downloaded on a monthly basis: 0-10, 11-25, 26-50, 51-100, 101-150, 151-200, 200+. This is a rather crude way of differentiating but does allow to differentiate between those occasionally downloading and the heavy users.

From the interviews (XS4ALL, Consumentenbond, Brein), it emerged that the parties involved have an opposite opinion about whether or not the requested measure is effective (that is why they were in court). All parties agree on one thing: artists are entitled to reasonable compensation for the use of their work. Opinions vary on *how* that goal should be achieved and especially *who* should act. Both

<sup>2</sup> It should be noted that [www.ikwilthepiratebay.nl](http://www.ikwilthepiratebay.nl) provides no independent access but explains some techniques that can circumvent the blockade (and links to solutions).



the provider and the customer believe that the solution must be sought in new business models to be used by the music and film industries, with ease of use and reasonable pricing as essential factors for success. Foundation Brein believes that new business models need support by additional enforcement measures, because the fight against free downloading is an unfair one.

## Discussion

The reason for the research were two lawsuits in which Internet Service Providers were ordered to block The Pirate Bay. After these convictions the providers chose a DNS blockade of a number of domains through the technique of DNS poisoning and an IP blockade on a number of IP addresses by blacklisting (XS4ALL).

To answer the question whether this blockade did or did not lead to changes in download behaviour, students of three college locations were questioned. The respondents showed no significant correlation between gender or age and whether or not unpaid downloading. Neither was there a significant correlation between gender or age and access to The Pirate Bay. The fact that no correlation was found contradicts another recent study at an English university (Dilmeri et al 2011). This may be due to a different sample from the population or the way questions were asked. Because our survey was largely conducted in real life (but otherwise anonymous), people started discussions on the subject. We therefore have reasons to believe that the respondents felt no need to answer in a socially desirable way.

In our survey, the reason most given for downloading is because it's free. A minority of respondents gave a different reason: try before you buy or because something is not yet available on the European market. This offers opportunities to the entertainment industry by means of other business models to entice consumers to pay for downloads. Another recent study also found that consumers now use these sources to legally (paid and unpaid) download or stream copyrighted material (IViR 2012).

Of the respondents who used the Pirate Bay before the blockade, 17% no longer have access after the blockade. There thus appears to be a group that can be discouraged by the blockade, but it remains questionable whether a measure that discourages 17% qualifies as effective.

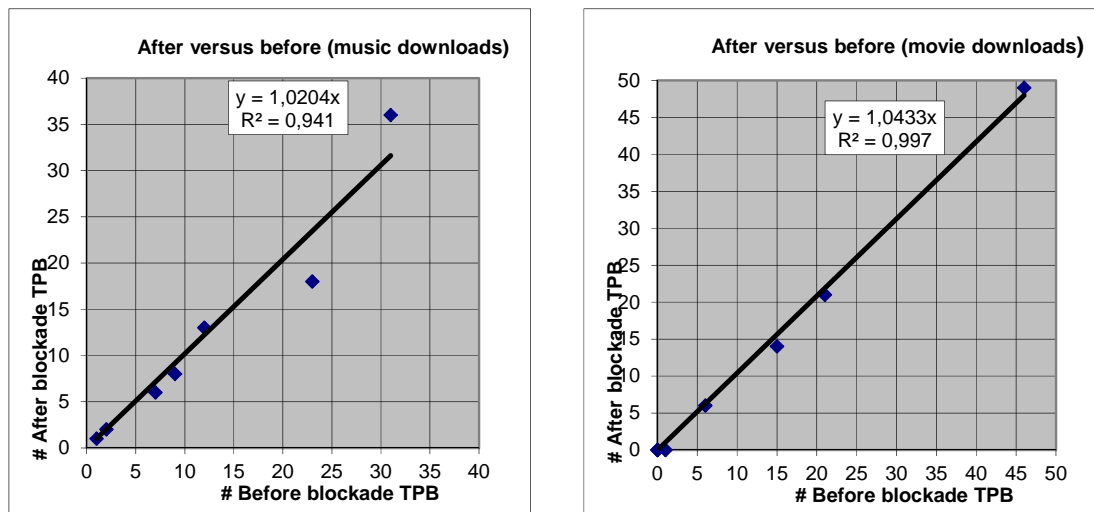
The providers argue that consumers have adequate opportunities for using other techniques to download from The Pirate Bay (or other providers). The survey results reveal that use is made of the provided bypass techniques; 39% of the respondents indicated the use of techniques to circumvent the blockade and use The Pirate Bay. In addition there is an even larger group indicating they do not use The Pirate Bay because there are sufficient alternatives (48%). From the results we see that many people have ample opportunity to continue downloading copyrighted material from illegal sources.

The Pirate Bay dropped on one of the most cited rankings of popular websites, Alexa (<http://www.alexa.com/>), indicating that the blockade is effective. Prior to the (first) blockade The Pirate Bay was on position 26 in this list (Brein 2012, Measurement January 2012). Before 2012 The Pirate Bay grew from position 96 to 79 on a worldwide scale, and from 44 to 33 in the Netherlands (Brein 2011). After the blockade The Pirate Bay dropped to place 223 in the list (Brein2012, measuring July 2012), and ultimately fell completely from the Alexa list in December 2012. From this viewpoint the blockade is effective, because the blocked website goes down in the rankings. The question is whether the Alexa ranking method is an adequate measurement method for this type of problem, because the method used implies consent by the consumer using the toolbar (Alexa 2010).

The researchers of System and Network Engineering of the University of Amsterdam found that many foreign IP addresses were used to exchange Dutch spoken or Dutch subtitled movies (SNE 2102, p.

15). One explanation could be that the illicit recordings are only available with Dutch subtitles and therefore enjoy foreign interest, but it may also be an indication that Dutch consumers resort to foreign proxies. The figures seem to point to more foreign interest in English-language productions uploaded by Dutch users (SNE 2012, p.7).

Respondents were asked to estimate how much they downloaded before and after the blockade of The Pirate Bay. With the dummy variable removed, we see the following results for downloading of music and movies (the numbers for downloading games were too small to be of any use). In the graph below, the categories are broken down in large numbers of small users (to the right) and small numbers of large users (to the left). It can be seen that especially for occasional music downloaders there are changes in download behaviour, in the other categories there is virtually no difference.



**Figure 4:** The number of respondents that downloaded from The Pirate Bay (TPB) before the blockade compared to the number of respondents that downloaded from The Pirate bay after the blockade. The variable that was used for the comparison was the amount of downloads per month. Heavy users (200+ downloads for songs or 151-200 downloads for movies) are positioned bottom left. Small users (0-10 downloads per month) are positioned top right. The correlation coefficient is nearly one, indicating that nothing has changed. If users would download less after the blockade, the correlation coefficient would lean upward with a value of significantly more than one.

When each category would answer they downloaded exactly the same amount, we expect to get a regression line with a regression coefficient of exactly one (1). What we see in the figure, is a regression coefficient of almost one. Hence, there is no change in download behaviour.

## Conclusion

More than three hundred young people between the ages of 18-28, studying in Dutch higher education, were surveyed on their perception whether the blockade of The Pirate Bay has changed their download behaviour.

With the survey done we can answer the question “Are people between 18 and 28 years in the Netherlands downloading less copyrighted material from illegal sources after the blockade of The Pirate Bay?”. The survey showed that the download behaviour of young people in the Netherlands (studying in Dutch higher education) according to themselves has not statistically significantly changed since the imposition of a blockade of The Pirate Bay.

We can therefore conclude that the blockade of The Pirate bay as a solitary measure is not effective. Reasons for the poor effectiveness include:

1. A large proportion of young people downloading from illegal sources use one of the many available alternatives;
2. A large proportion of young people downloading from The Pirate Bay has found ways to circumvent the blockade.

These findings are broadly in line with what the researchers IViR and Data Center have found (IViR 2012), although a more detailed comparison is not possible because of the different questions. The study of IViR concludes that nearly a quarter (23.8%) of the subscribers of Ziggo and XS4ALL are still downloading from illegal sources, but that the blockade had no effect on the download behaviour of approximately three-quarters of those still downloading from illegal resource.

The researchers of System and Network Engineering of the University of Amsterdam also mention the two causes for the poor effectiveness of the blockade that we found in our research (SNE 2012, p. 10).

We found that a minority is downloading less as a result of the blockade because it has become more difficult (but is still downloading from illegal sources). By contrast, a small proportion of respondents are downloading more as a response to the blockade. IViR and CentERdata also found a small minority (5.5%) of the subscribers of Ziggo and XS4ALL downloading less or stopping due to the blockade.

The System and Network Engineering research group of the University of Amsterdam did their re-sampling of Breins' sampling after the blockade was activated by Ziggo and XS4ALL, but before the other providers had done so. The conclusion from this study is that no significant effect can be found from the blockade (SNE 2012).

There are also differences in outcome: a majority of the population studied by IViR and CentERdata says to use legal methods for downloading (music: 60.8%, films and series: 57.2% games: 27.7%). In our study we see that a large majority sometimes download for free in the context of downloading from an illegal source (87%).

From the previous studies and this research it can be concluded that the measure of blocking only the Pirate Bay site itself is not effective; additional measures are necessary.

In our research the population of young people studying at Dutch universities was studied. This study provides no answer to the question whether a similar conclusion can be drawn for the entire Dutch population aged between 18 and 28 years, this would require further research. Another small study with a different population showed that of the people who failed to download a movie from an illegal source, all were above 40. Additional research would be necessary to find whether a blockade would effectively stop older people from downloading from illegal sources.

Foundation Brein tackles new sources that spring up within the territory of The Netherlands by summing them to cease and desist and, if necessary, an order from the court to do so. It remains to be seen if this approach in conjunction with blockades of extra territorial websites providing the services will be effective.



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