

Copytrack Global Infringement Report 2019

International Image Theft in Comparison

March 2019
COPYTRACK GmbH

Global Infringement Report 2019
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Hot on the Heels of Copyright Infringement Worldwide

Almost nothing of value online operates without the help of photos and illustrations. That being said, of the images shared on the internet, the majority are used without a valid license – much to the chagrin of the authors themselves. In order to raise awareness of the extent to which image copyrights are violated, Copytrack regularly investigates how, where, and to what extent images are used illegally. The results from the investigation have been compiled here in the 2019 version of the Copytrack Global Infringement Report.

Millions of images are found on the web and used on websites or shared on social media. What is unclear to many users is that publishing others' images is generally regarded as copyright infringement. Two studies from IMGembed and Copytrack show that of the 3 billion images shared on the internet daily, around 85 percent are used without a valid license. In most cases, not even the very artists, photographers, publishers, and image agencies affected are aware of the extent to which their images are used illegally!

Even many affected artists, photographers, publishers and photo agencies are unaware of the extent of illegal image usage, with an estimated 2.5 billion images being unlawfully distributed every day." Copytrack was able to obtain an average of 213 euros per image^[1] for its users in 2018. This figure, combined with the estimated amount of images stolen daily, can result in losses of up to €532.5 billion a day - of course, only theoretically, because private and commercial image violations are not pursued equally. Widespread copyright violations, at the very least, show a clear lack of respect for the work of photo-

graphers. Image theft worldwide deprives rights holders from important revenue on a daily basis.

Logistically speaking, searching for duplicate images on the internet is very elaborate and when legal measures are required, they are often cost-intensive. In addition, affected parties often don't have the time to track down their illegally used images in order to retroactively demand royalties. It is for this reason that Copytrack allows access to its reverse image search service for free and even offers to take care of the enforcement of copyright law without any financial or legal risk to the user. This process begins with Copytrack's app which makes it easy for photographers and rights holders to upload their images online. Copytrack's image search system then scans the internet for instances of online usage globally; any usages found are subsequently investigated.

The Copytrack Global Infringement Report 2019 is comprised of the statistical analysis of over 12,000 Copytrack user profiles. Illegal image uses have been investigated on the basis of all search hits considered illegal by individual account holders, along with website owner data based on information collected by internally developed web crawlers. Percent values mentioned in this report refer to the number of potential copyright violations handled by Copytrack over the period of December 2017 through December 2018. Geographic locations were used for the analysis.

Image Theft on a Macro Scale: Continents with the Most Image Copyright Violations

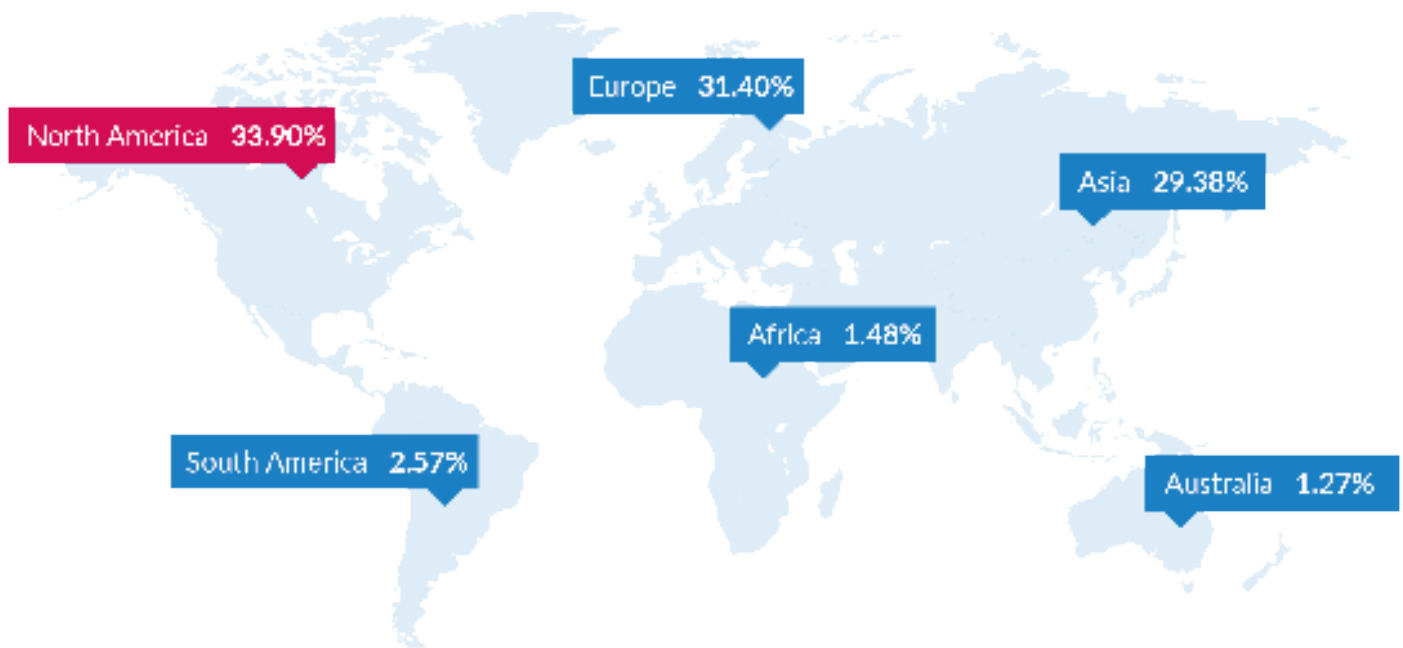


Image: Copyright infringement on images by continent

When it comes to the continent with the most image copyright violations, the leading continent is not necessarily the one you would expect. Our leader in regards to copyright infringement was not Asia, as many may have assumed, but rather **North America with 33.90 percent of image copyright violations coming from this part of the world.** Following closely behind North America in the number two spot was Europe with 31.40 percent of image copyright violations. Asia did however still retain a spot on the podium at number three behind Europe with 29.39 percent of image copyright violations.

Why could this be? After all, Asia is home to an overwhelming majority of the world's population.

Exact reasons are hard to pinpoint considering that accurate information on the number of websites per country and continent is hard to compile. Analyzing the endings of domains doesn't do much help either as the popular .com domain, which was originally designated for American companies, has been used world-wide for some time now.

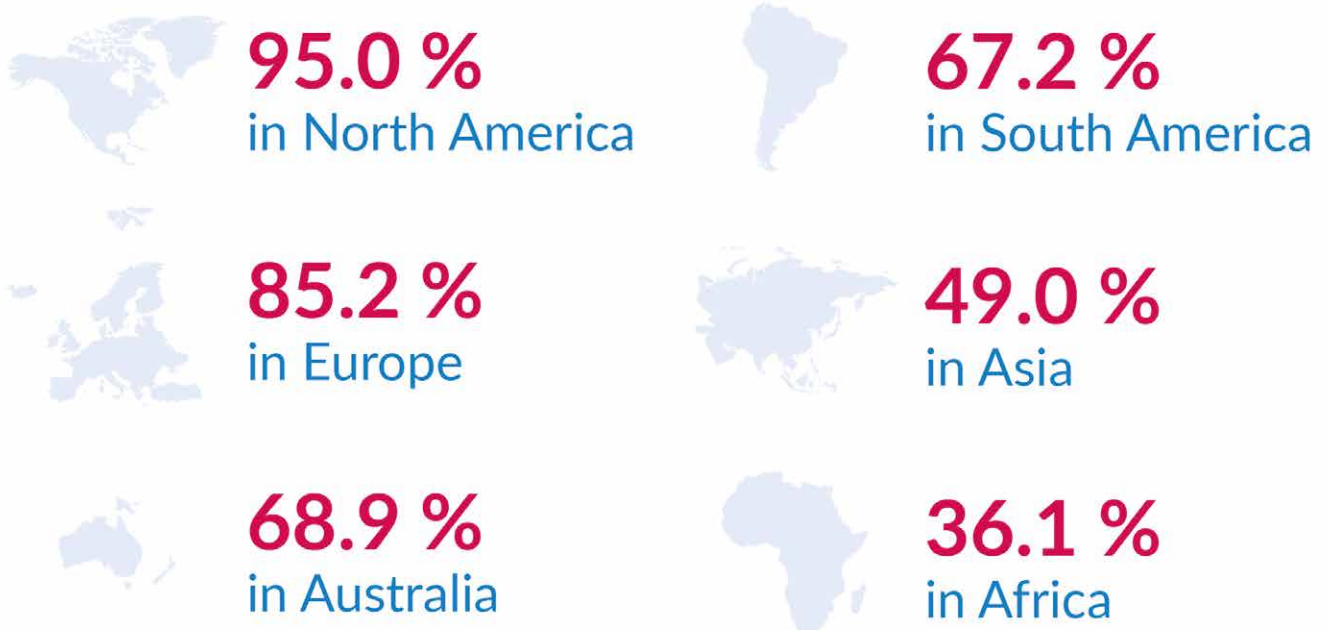
On the other hand, we do know that internet

and e-commerce sites are used extensively in North America and Europe, which could be an indicator for why image theft is higher on these continents. Another indicator lies within the percentage of internet users per continent.

Miniwatts Marketing Group statistically captured international internet use in 2018 and found that, while a large portion of the global population lives in Asia, only 49 percent of the population were regular internet users in that year. In Europe, that number was 85.2 percent while North America was the leader with a whopping 95 percent of the population using the internet regularly.

Rounding out the bottom of the list of continents with the most image copyright violations (excluding Antarctica) were South America with 2.71 percent of violations, Africa with 1.53 percent, and Australia with 1.36 percent. In total, these three continents accounted for just 5.6 percent of copyright violations globally.

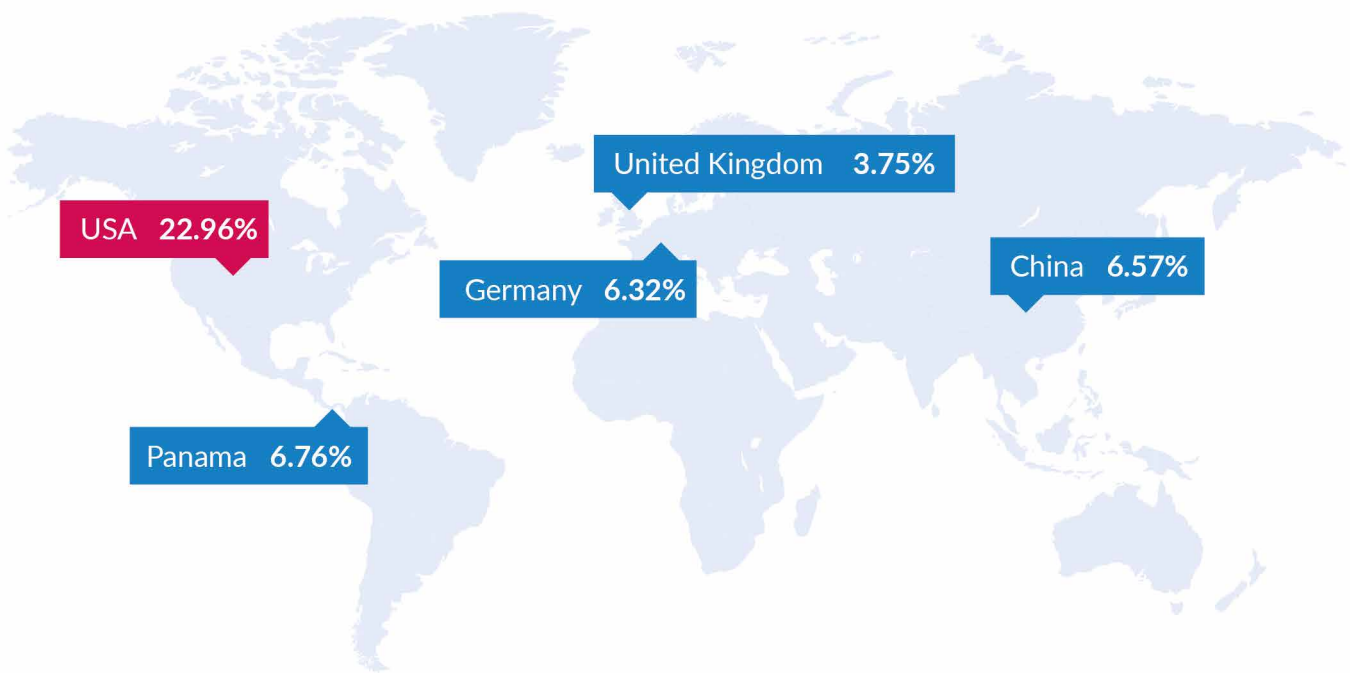
While almost 70 percent of the people in Australia and Oceania have access to the internet, the percentage of the world population living in this part of the world is very low in comparison to North America, Europe, and Asia. In contrast, almost as many people live in Africa as in North America and Europe combined, however internet culture there is proportionately much less developed and only about 36 percent of inhabitants there used the internet regularly in 2018.



Source: Internet World Stats - www.internetworldstats.com/stats.htm

The penetration rates are based on a world population of 7.634.758.428 and 4.208.571.287 estimated internet users on June 30, 2018.

Image Theft by Country: The Top 20 Most Image Infringing Nations



1. USA	22.96 %	11. India	2.97 %
2. Panama	6.76 %	12. Spain	2.95 %
3. China	6.57 %	13. Canada	2.72 %
4. Germany	6.32 %	14. Turkey	1.98 %
5. United Kingdom	3.75 %	15. Czech Republic	1.62 %
6. Indonesia	3.53 %	16. Brazil	1.60 %
7. Japan	3.33 %	17. Ukraine	1.34 %
8. Italy	3.09 %	18. Switzerland	1.25 %
9. Russia	3.04 %	19. Netherlands	1.16 %
10. France	3.03 %	20. Vietnam	1.04 %

Image: The top 20 most image infringing nations

Analysing the number of stolen images by country, the USA is clearly in the lead with 22.96 percent of global search hits. Considering the size of the country and the millions of websites operated there, this number does not raise many eyebrows.

What is astonishing however, is that Panama, with a population of only 4 million, comes in second place with 6.76 percent of copyright violations. While this may be shocking at first glance, the reason why this is the case makes this figure much more reasonable. Panama is actually a popular destination for privacy protection services to register domains on behalf of third parties. This service is provided in order to disguise domain ownership information and publicly accessible “Whois” data with the intention of keeping a site’s actual owner undetected.

The third most image infringing country is actually the one which many would have expected to rank first, China. China is home to

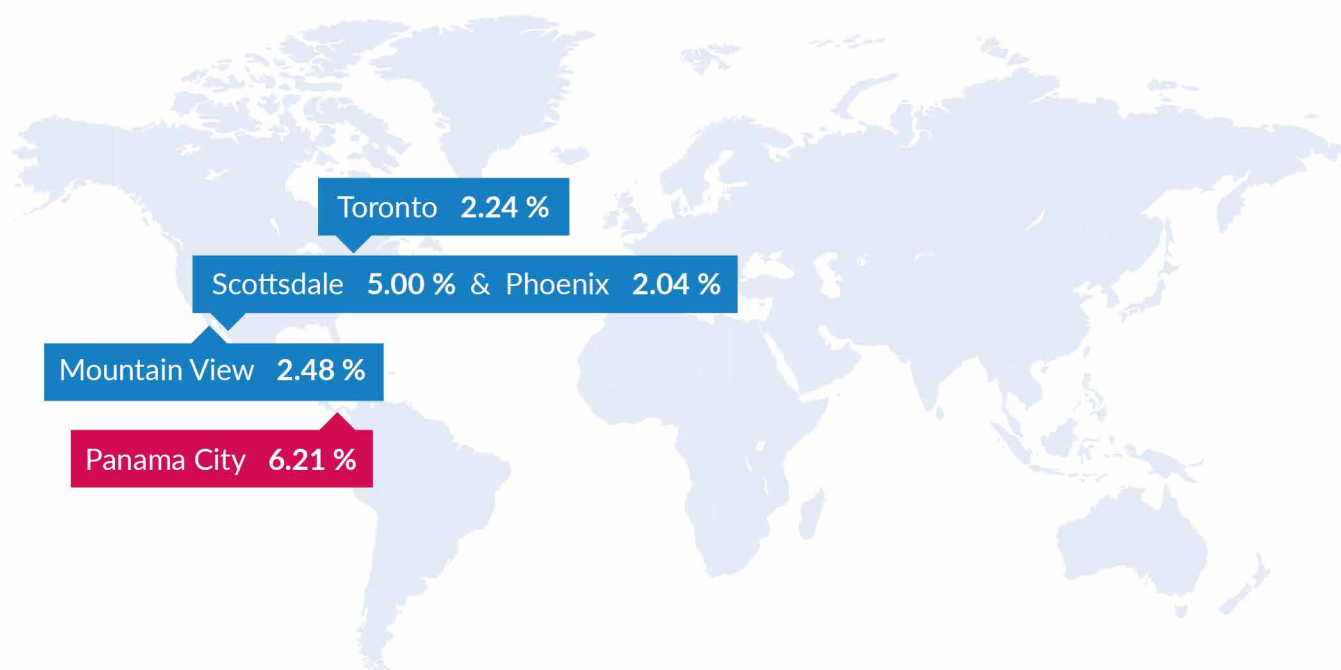
nearly three times as many inhabitants as the USA and, in the past, has garnered an international reputation for infringing on copyrights. Although China is responsible for 6.57 percent of illegally used image material worldwide, this number is proportionally low in regard to the massive size of its population.

Following closely behind China is Germany, which was responsible for 6.32 percent of illegal search hits. The fact that Germany lands closely behind both Panama and China can be an indication that the sensibility for image rights in Germany is not as developed as in other countries around the world. Each of the following six countries of the worldwide top 20 most frequent image infringers are responsible for between three and four percent of image theft worldwide. These countries include the United Kingdom with 3.75 percent of image infringements, followed by Indonesia, Japan, Italy, Russia, and, in the tenth spot, France with 3.03 percent of image infringements.

Focusing in on Cities: The Top 20 Most Image Rights Violating Cities in the World

According to a report by the United Nations and the British newspaper The Guardian in 2018, around 55% of the world population lived in cities. In our investigation of illegally used images by city, we did not find the number one most infringing city to be a mega city, but rather Panama City. With 6.21 percent of image infringements by city, Panama City was the leader in image copyright violations com-

pared to every other city in the world. While on the surface this seems strange, referring back to the fact that Panama ranked number two out of all image infringing countries in the world, Panama City’s ranking seems to fit the bill. To add to this point, Panama is the most economically globalized region in Central America and the country’s modern capital is booming economically.



1. Panama City	6.21 %	11. Istanbul	1.27 %
2. Scottsdale	5.00 %	12. London	1.13 %
3. Mountain View	2.48 %	13. Tokyo	1.08 %
4. Toronto	2.24 %	14. Kirkland	1.08 %
5. Phoenix	2.04 %	15. San Francisco	0.91 %
6. Hangzhou	1.99 %	16. Menlo Park	0.89 %
7. Moscow	1.55 %	17. Jacksonville	0.83 %
8. Beijing	1.40 %	18. Denver	0.81 %
9. Burlington	1.33 %	19. Hamburg	0.74 %
10. New York	1.29 %	20. Limassol	0.72 %

Image: The top 20 cities for image theft worldwide

Two other factors that pull Panama into focus are the local tax law and the handling of copyright law. Panama has a territorial tax system, that exempts all incomes obtained outside of Panama from taxation. This zero-taxation regulation for foreign incomes applies to people residing in Panama as well as Panamanian companies. Due to Panama's geographic location, modern infrastructure, and relatively cen-

tral location, having headquarters in Panama or operating websites and blogs there can be very appealing for American citizens. Furthermore, for many years Panama adhered to the reputation of ineffectively proceeding against copyright violations.

Second place on the most image infringing cities list went to the wealthy city of Scottsdale,

Arizona in the USA. Scottsdale was responsible for 5 percent of image infringements and did so with a population of only about 250.000 inhabitants! Finding reasons for this placement is not easy, however, in 1993 Scottsdale was rated the “most liveable city in the USA and made a name for itself in tabloid media as a celebrity vacation spot. In Scottsdale, photos of popular locations are some of the most commonly used pictures without a license. It is therefore quite possible that the sudden fame of the city was picked up locally and was spread across the internet – without sufficient diligence for image rights research.

Following Scottsdale in third place is Mountain View, located in the heart of Silicon Valley and also home to Google’s headquarters. Mountain View’s 2.48 percent of image rights violations only made up about half of the violations of Scottsdale. Silicon Valley is the USA’s internet metropolis with numerous start-ups and tech-giants alike establishing their headquarters there. While there is no clear correlation between the size of a company and the due diligence applied when using correctly licensed image material is strived for, the many small businesses and countless bloggers and influencers residing in Mountain View may be to blame.

Fourth and fifth place are held by Toronto with 2.24 percent of image infringements and Phoenix, the capital of Arizona situated between mountains and desert, with 2.04 percent. All of the cities mentioned above show that the most illegal image uses originate from cities located in strong economic regions of Central America, the western United States, and Canada.

Two more interesting findings were related to the cities in the number nine and ten spots. The world city on the east coast of the United States, New York, with 1.29 percent of global image

copyright violations came in ahead of Japan’s drastically more populated mega city of Tokyo, which came in at tenth. With this finding, the number one metropolis in the USA makes itself known not only for cultural, ethnic, and economic diversity, but also for copyright violations.

Shifting attention over to European cities, only Istanbul with 1.27 percent of infringements, London with 1.13 percent, and Hamburg with 0.74 percent made the list, coming in at eleventh, twelfth, and nineteenth respectively.

North America: USA Commits Two-Thirds of All Image Copyright Violations on the Continent



Image: The top 10 countries for image theft in North America

While we already know that the USA is leading in image copyright infringement violations in all of North America, what is surprising is that the USA was responsible for about two-thirds (66.98 percent) of Copytrack's search hits. Number two in the infringing countries list, Panama, followed with 19.73 percent of image copyright violations in North America, while Canada took third place with 7.94 percent.

In other North American countries, the illegal use of images didn't seem to be very widespread. Mexico was responsible for a mere 2.02

percent of illegal findings, while the Dominican Republic and Costa Rica rounded out the bottom of the group with 0.09 percent each.

Europe: Germany Responsible for the Most Image Copyright Violations on the Continent



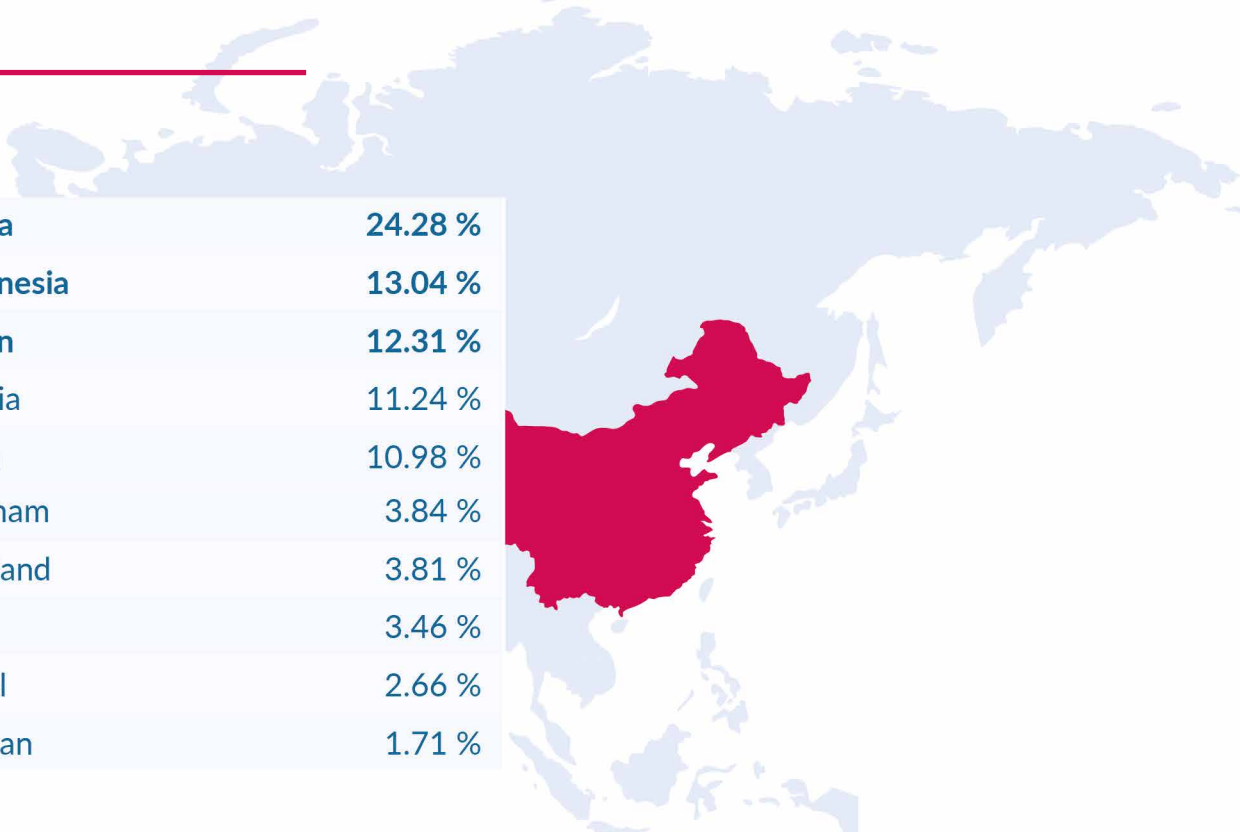
Image: The top 10 countries for image theft in Europe

Germany is the clear leader among European countries with 19.1 percent of image rights violations. Following behind Europe's most populous country is the United Kingdom, which sits in second place with 11.33 percent of infringements. Italy sits in third place with 9.36 percent, putting it just ahead of France's 9.17 percent. In Spain, image rights were violated almost as often as they were in France; Copytrack found that 8.99 percent of European violations originated there. At the bottom of the list was the Netherlands, which came in tenth with 3.52 percent.

Since European countries are all fairly modern, strongly industrialized, and

have a strong internet economy, there are no major surprises here with the most populated countries proportionately leading the others. Population size does not correlate one-for-one with copyright violations in Europe however. For example, France, the country with almost as many residents as the United Kingdom, was responsible for less than half that of infringements from the leading nation, Germany. Similarly, although the Netherlands has a population of just about double that of Switzerland, the two countries were responsible for roughly the same percentage of unlicensed image uses, with 3.52 percent and 3.77 percent respectively.

Asia: China Leads the Pack in Image Copyright Violations



1. China	24.28 %
2. Indonesia	13.04 %
3. Japan	12.31 %
4. Russia	11.24 %
5. India	10.98 %
6. Vietnam	3.84 %
7. Thailand	3.81 %
8. Iran	3.46 %
9. Israel	2.66 %
10. Taiwan	1.71 %

Image: The top 10 countries for image theft in Asia

The Aktion Plagiarius (www.plagiarius.com), a tongue-in-cheek German prize awarded since 1977 for especially audacious product copies, has investigated that almost 80 percent of the counterfeit goods seized at customs come from China or Hong Kong. That being said, China does not come first in the world for image copyright violations. Within Asia however, China is clearly leading the pack with 24.28 percent of violations.

The country following behind China in image rights violations is a bit of an unexpected one. While one could assume that the second most image infringing country in Asia might be India, based on its immense population and its rate of development in terms of both the economy and tech, this title actually goes to Indonesia. Indonesia, with its 264 million inhabitants, is responsible for 13.04 percent of image thefts

on the Asian continent. The fact that this South-east Asia country is made up of thousands of volcanic islands and is a popular travel destination may provide some insight into why this is. When it comes to image theft in Indonesia, local tourism industry entities often fall back on unlicensed images for promotional material.

Following behind Indonesia and taking the title for third most copyright violating nation in Asia was the tech giant Japan with 12.31 percent of infringements. Russia^[2] was the fourth most infringing country with 11.24 percent and India followed closely behind with 10.98 percent of infringements.

Coming in at the tenth spot and earning the reputation of least infringing country in Asia was the island nation of Taiwan with only 1.71 percent of image rights violations.

South America: Almost 60 Percent of

Image Rights Violations in South America

1. Brazil	59.79 %
2. Ecuador	12.92 %
3. Argentina	10.91 %
4. Venezuela	4.14 %
5. Peru	3.62 %
6. Colombia	3.50 %
7. Chile	3.45 %
8. Uruguay	0.57 %
9. Paraguay	0.29 %
10. Suriname	0.23 %



Image: The top 10 countries for image theft in Africa

As with North America, there is also a lone image-stealing leader in South America as well. Brazil is responsible for a whopping 59.79 percent of image thefts originating in South America. This is unsurprising as Brazil is by far the most populated country in South America, not to mention it has a stable economy in comparison to its continental neighbours. On a global scale however, Brazil is the sixteenth most image infringing country and is responsible for only 1.62 percent of image rights violations in the world. In terms of infringement originating in South America however, Brazil is responsible for roughly two-thirds of all violations on the continent!

Contrary to what common logic would suggest if factoring economic strength and population into an assumption about the second and third most infringing South American countries, these titles don't actually belong to Colombia and Venezuela. These spots are instead occupied by Ecuador, with 12.92 percent of South American infringements and Argentina, with 10.91 percent. Venezuela, Peru, Colombia, and Chile are in the middle of the pack in the South American image theft category, with between three and four percent of infringements each. In Uruguay, Paraguay, and Suriname there were only isolated violations and therefore didn't play a noteworthy role by international comparison.

Australia & Oceania: Image Rights Violations Originating from the Island Nations



1. Australia	75.17 %
2. New Zealand	18.51 %
3. American Samoa	3.79 %
4. Marshall Islands	0.69 %
5. Cocos Islands	0.57 %
6. Cook Islands	0.46 %
7. Tuvalu	0.23 %
8. Fiji	0.23 %
9. Guam	0.23 %
10. Solomon Islands	0.11 %

Image: The top 10 countries for image theft in Australia and Oceania

On the continent of Australia & Oceania, three-quarters of Copytrack's image search hits marked as illegal were attributed to Australia with 75.17 percent of violations originating from the continent. Of the remaining violations, almost a fifth stem from New Zealand with 18.51 percent, which is to be expected considering the size of both countries' populations.

Smaller islands like the Cocos Islands, Tuvalu, and Fiji, are responsible for the remaining image rights violations originating from the continent.

With a search hit rate of under one percent for the continent with the fewest residents, Australia as a whole was not responsible for a significant portion of image rights violations globally despite having a well-developed tech culture.

Africa: Egypt Infringes on Image Rights More Than Any Other African Country

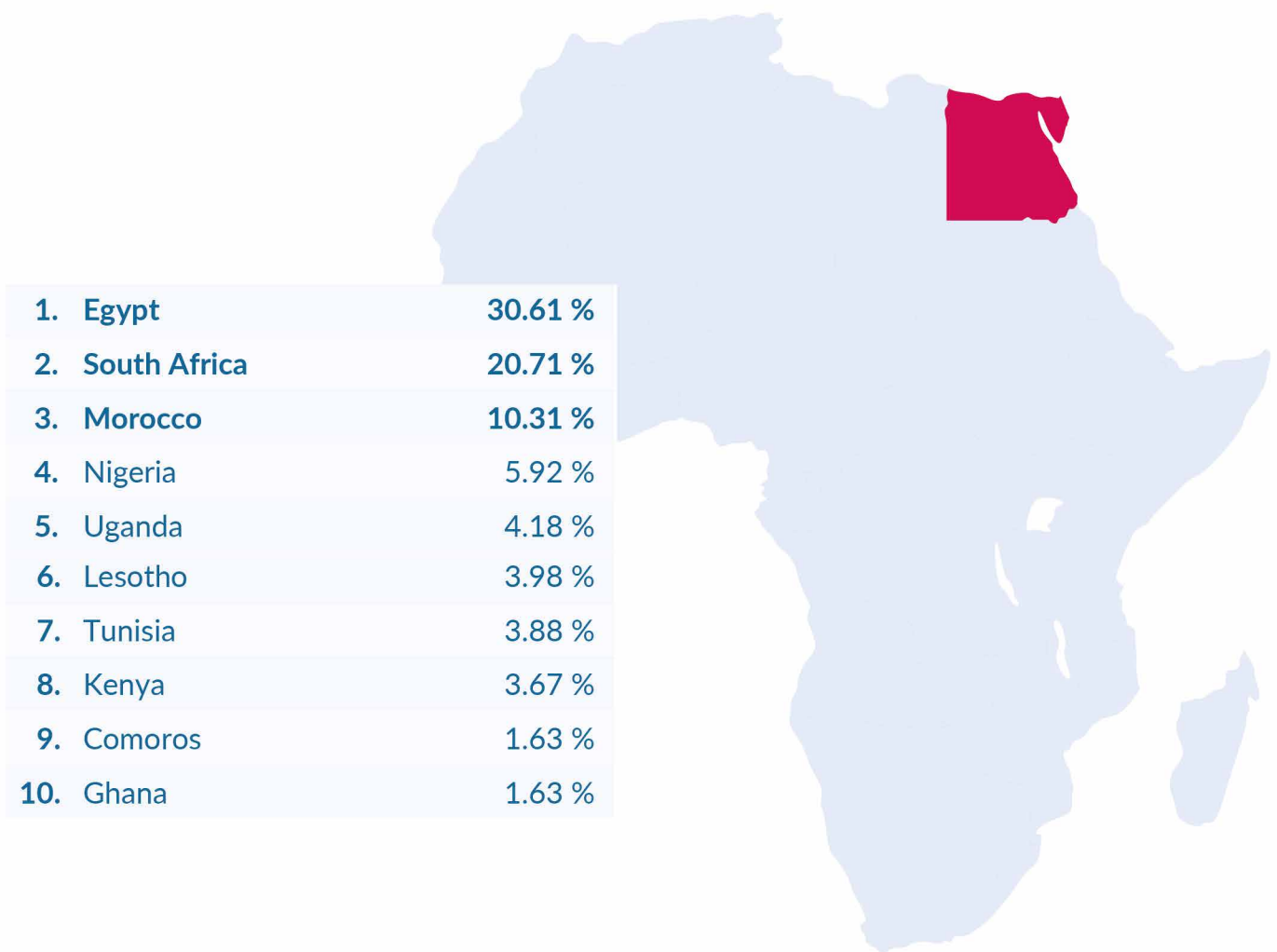


Image: The top 10 countries for image theft in Africa

Overall, Africa plays virtually no role in regard to image copyright law violations globally. That being said, they still do occur, with most violations in Africa coming from Egypt, South Africa, and Morocco at a rate of about 33 percent, 20 percent, and 10 percent respectively.

Moving down to the bottom of the top 10 most infringing countries in Africa we found the Comoros Islands and Ghana with 1.63 percent of search hits each.

Which Resolutions Are Most Common for Unlicensed Images?

In regard to the resolution of images that are stolen, there are mixed findings. Copytrack has investigated targeted search hits according to their size. It is clear that times of standard resolutions à la “optimized for the Netscape navigator 4.0.4 and 1024 x 768” for images are long gone.

Thanks to the triumph of mobile internet and responsive websites there are thousands of different formats, that are deployed depending on the purpose and display device. Copytrack’s findings were extremely varied with 22,676 different resolutions registered for image search hits during the assessment period.

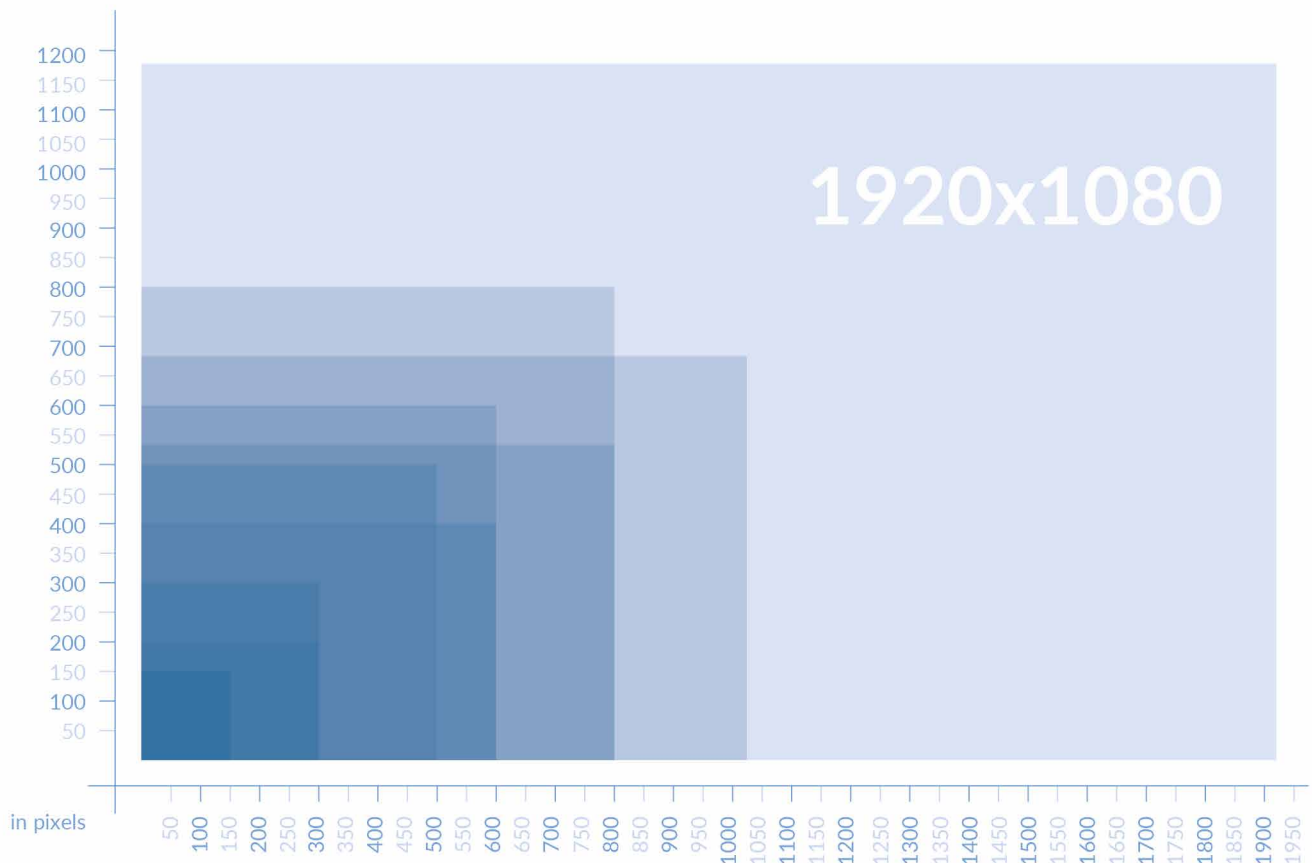
are dominant among mobile phones and computers, larger images are mostly either used with larger width (“landscape mode”) or greater height (“portrait mode”). For small product previews or avatars, the 1:1 format is set as default when 800 x 800 pixels are too big.

Full-HD with 1920 x 1080 pixels is the most common resolution among illegally used images. This format is usually used for full-screen images like wallpapers or large galleries.

The other top 10 resolutions are altogether much smaller, however a format ratio of 3:2, 2:3, or 1:1 is common to almost all of them. Images in 600 x 400, the second most commonly found resolution, is often found in articles for loosening up and improving the presentation of the text.

Third place with its 800 x 800 pixel size is a bit more interesting. Since widescreen screens

10 Different Resolutions Make Up Almost 40 Percent of All Image Sizes for Image Theft



1. 1920 x 1080	5.19 %	6. 200 x 300	3.51 %
2. 600 x 400	4.64 %	7. 600 x 600	3.36 %
3. 800 x 800	4.00 %	8. 150 x 150	3.28 %
4. 300 x 300	3.95 %	9. 800 x 533	3.15 %
5. 500 x 500	3.92 %	10. 1024 x 683	3.09 %

Image: 22.676 different resolutions for image theft are registered – the graphic shows the 10 most-stolen image resolutions.

Image Theft by Domain: The 10 Top-Level Domains With the Most Illegal Image Duplicates



Behind every unlicensed image use, there is a website and a URL. Upon conclusion of the Copytrack Global Infringement Report 2019, a total of 505 different domain endings have been identified as illegally using images.

Domains with the ending “.com” have been regarded as the most valuable for years. Domains ending in “.com” are popular for both companies and individuals worldwide and are not regionally limited upon registration. It should come as no surprise that because of this, domains ending in “.com” were the most common URL’s for posting illegally used images – far ahead of the other internationally used domain, “.net”.

We don’t start to see any geographical bias in terms of infringing domains until the third most infringing “.de.” domains, meaning they were registered in Germany. Other notable mentions in the category were comprised of a mix of globally-used and regional domains, including:

- “.ru” (Russia)
- “.org” (Organizations)
- “.it” (Italy)
- “.info”
- “.jp” (Japan)
- “.co.uk” (Great Britain)
- “.pl.” (Poland)

Just under half of all illegally used images were found on “.com” domains with a frequency of 48.76 percent.

Analyzing the Results

As we can see from the findings in our Copytrack Global Infringement Report 2019, image rights are disregarded in almost every corner of the world. While on the surface, this realization seems as if it gives an indication as to the overall opinion on image rights in today's day and age, this isn't the full story. Concealment of actual image sources through search engines, as well as the very nature of the internet itself, often make it difficult for people searching for images to properly identify authors and confirm their image uses. On the other hand, the prevalence of image theft online reflects just how easy it is for intellectual property rights to be infringed upon. More often than not, these infringements stay online for far too long and, in many cases, go completely unchallenged.

This problem will most likely continue at a similar rate until major search engines such as Google, Yahoo, and the like figure out a way to reliably identify the authors of images posted online. Although the mere thought of how extensive copyright abuse is for copyright owners can be frightening, not all hope is lost. As of today, it is still possible for photographers and other rights holders to assert their claims for equitable remuneration even after image theft has taken place, as a means to begin combatting image theft and fighting for image rights.

The Copytrack Global Infringement Report has been created and published in March 2019 by Copytrack GmbH. Copytrack GmbH offers rights holders like photographers, image agencies and e-commerce providers an all-around service that allows for the finding and prosecution of copyright violations online without a risk of cost.

For the Copytrack Global Infringement Report 2019, Copytrack GmbH has anonymously and statistically evaluated over 12,000 Copytrack user profiles. Illegal image uses have been investigated on the basis of all image findings considered illegal by account owners, as well as publicly accessible data of website owners on the basis of internally developed website crawlers.

The percent amounts mentioned also describe the proportion of potential copyright violations during the period of December 2017 through December 2018.

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www.copytrack.com/global-infringement-report-2019

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[1] For each successful case, an average of 320 euros was generated for on average 1.5 images per case.

[2] Since a majority 71% of Russia's land mass lies on the continent of Asia, statistics from Russia have been attributed to Asia in this analysis.



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