

Do Cookie Banners Respect my Choice?

Measuring Legal Compliance of Banners from IAB Europe's Transparency and Consent Framework

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Introduction

- GDPR - May 2018
- Requirements on consent → “Cookie banners”

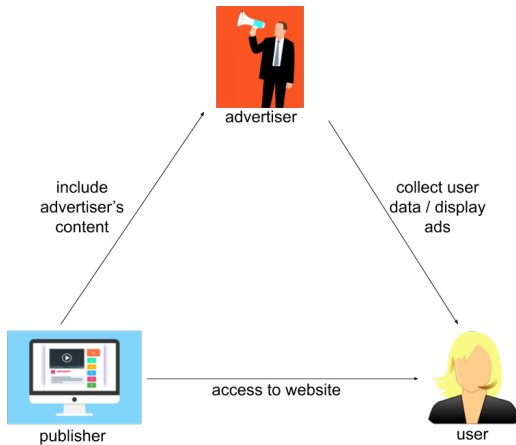


- IAB Europe - organization of advertisers
- Transparency and Consent Framework (TCF)

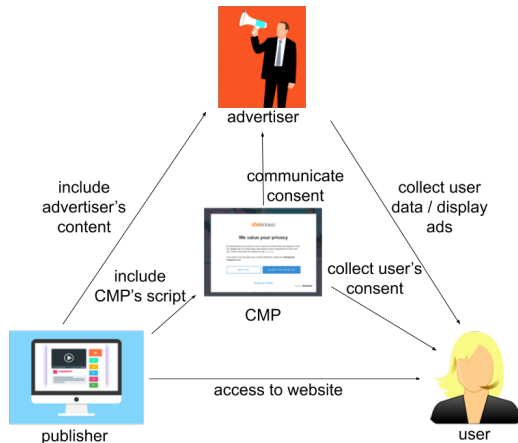


- 1 Introduction
- 2 IAB Europe's Transparency and Consent Framework
- 3 Suspected violations
- 4 Crawls
- 5 Conclusion / Opening

Background: Business model of the web



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- TCF introduces new actors: Consent Management Providers (CMPs)
- Collecting and disseminating of consent

Examples of websites using the TCF

All

| | |
|-----|---------------------|
| 48 | msn.com |
| 58 | cnn.com |
| 65 | theguardian.com |
| 95 | imgur.com |
| 113 | reuters.com |
| 119 | tinyurl.com |
| 126 | businessinsider.com |
| 127 | bloomberg.com |
| 133 | fandom.com |
| 134 | dailymail.co.uk |
| 146 | dailymotion.com |
| 151 | telegraph.co.uk |
| 191 | free.fr |
| 194 | vice.com |
| 197 | w3schools.com |
| 223 | independent.co.uk |
| 252 | buzzfeed.com |
| 256 | ebay.de |
| 277 | sindonews.com |
| 316 | mashable.com |
| 319 | theatlantic.com |
| 322 | healthline.com |
| 323 | ebay.co.uk |
| 345 | economist.com |
| 361 | guardian.co.uk |
| 373 | softonic.com |
| 425 | wikia.com |
| 434 | merriam-webster.com |
| 443 | thesaurus.com |

(Tranco list ranking)

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| 127 | bloomberg.com |
| 133 | fandom.com |
| 134 | dailymail.co.uk |
| 146 | dailymotion.com |
| 151 | telegraph.co.uk |
| 191 | free.fr |
| 194 | vice.com |
| 197 | w3schools.com |
| 223 | independent.co.uk |
| 252 | buzzfeed.com |
| 256 | ebay.de |
| 277 | sindonews.com |
| 316 | mashable.com |
| 319 | theatlantic.com |
| 322 | healthline.com |
| 323 | ebay.co.uk |
| 345 | economist.com |
| 361 | guardian.co.uk |
| 373 | softonic.com |
| 425 | wikia.com |
| 434 | merriam-webster.com |
| 443 | thesaurus.com |

(Tranco list ranking)

IAB Europe's Transparency and Consent Framework

- Defines:
 - 1 Standard purposes
 - 2 An API to standardize communication between CMPs and advertisers
 - 3 A “consent string” format
 - + Other APIs and mechanisms
- Provides:
 - 4 Global Vendor List (advertisers) and Global CMP List

1 Purposes

| purpose number | purpose name | purpose description |
|----------------|--|---|
| 1 | Information storage and access | The storage of information, or access to information that is already stored, on your device such as advertising identifiers, device identifiers, cookies, and similar technologies. |
| 2 | Personalisation | The collection and processing of information about your use of this service to subsequently personalise advertising and/or content for you in other contexts, such as on other websites or apps, over time. Typically, the content of the site or app is used to make inferences about your interests, which inform future selection of advertising and/or content. |
| 3 | Ad selection, delivery, reporting | The collection of information, and combination with previously collected information, to select and deliver advertisements for you, and to measure the delivery and effectiveness of such advertisements. This includes using previously collected information about your interests to select ads, processing data about what advertisements were shown, how often they were shown, when and where they were shown, and whether you took any action related to the advertisement, including for example clicking an ad or making a purchase. This does not include personalisation, which is the collection and processing of information about your use of this service to subsequently personalise advertising and/or content for you in other contexts, such as websites or apps, over time. |
| 4 | Content selection, delivery, reporting | The collection of information, and combination with previously collected information, to select and deliver content for you, and to measure the delivery and effectiveness of such content. This includes using previously collected information about your interests to select content, processing data about what content was shown, how often or how long it was shown, when and where it was shown, and whether the you took any action related to the content, including for example clicking on content. This does not include personalisation, which is the collection and processing of information about your use of this service to subsequently personalise content and/or advertising for you in other contexts, such as websites or apps, over time. |
| 5 | Measurement | The collection of information about your use of the content, and combination with previously collected information, used to measure, understand, and report on your usage of the service. This does not include personalisation, the collection of information about your use of this service to subsequently personalise content and/or advertising for you in other contexts, i.e. on other service, such as websites or apps, over time. |

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| 4 | Content delivery, reporting | |
| 5 | Measurement | The collection of information about your use of the content, and combination with previously collected information, used to measure, understand, and report on your usage of the service. This does not include personalisation, the collection of information about your use of this service to subsequently personalise content and/or advertising for you in other contexts, i.e. on other service, such as websites or apps, over time. |

1 Purposes (example)

The screenshot shows a OneTrust Privacy Settings modal overlaid on a news website. The modal has a title bar with the OneTrust logo and the text "Privacy Settings". Below the title bar, there is a sidebar on the left with a list of categories: "Your Privacy", "Strictly Necessary Cookies", "Social Media", "Ad selection, delivery and reporting", "Measurement", and "Personalisation". The "Personalisation" category is currently selected. The main content area on the right is titled "Content selection, delivery and reporting" and contains a paragraph of text explaining the collection and use of information for personalization. At the bottom of the modal, there is a "Powered by OneTrust" logo, a "Save Preferences" button, and an "Accept all" button. The background website shows a news article with a photo of a man in a suit and a headline about Carrie Symonds.

Live updates | All coronavirus stories | Global virus map | Face masks | Podcast | Newsletter | Ramadan | **TRENDING: Prince Harry**

OneTrust

PRIVACY, SECURITY & THIRD-PARTY RISK

Privacy Settings

Your Privacy

- Strictly Necessary Cookies
- Social Media
- Ad selection, delivery and reporting
- Measurement
- Personalisation**

Content selection, delivery and reporting

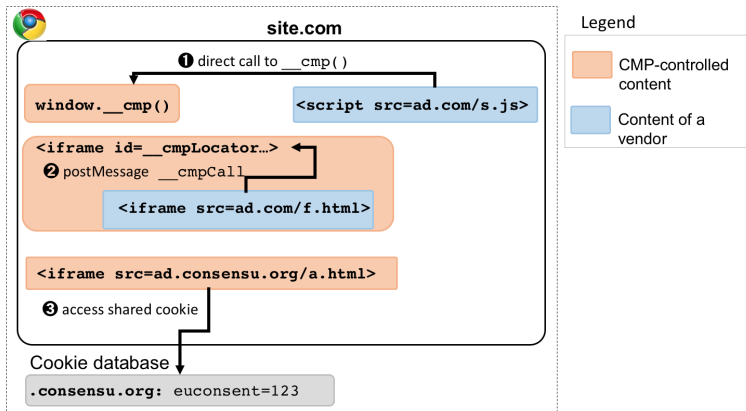
The collection of information, and combination with previously collected information, to select and deliver content for you, and to measure the delivery and effectiveness of such content. This includes using previously collected information about your interests to select content, processing data about what content was shown, how often or how long it was shown, when and where it was shown, and whether the you took any action related to the content, including for example clicking on content. This does not include personalisation, which is the collection and processing of information about your use of this service to subsequently personalise content and/or advertising for you in other contexts, such as websites or apps, over time.

Powered by **OneTrust**

Save Preferences **Accept all**

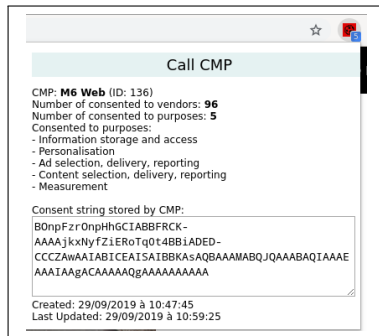
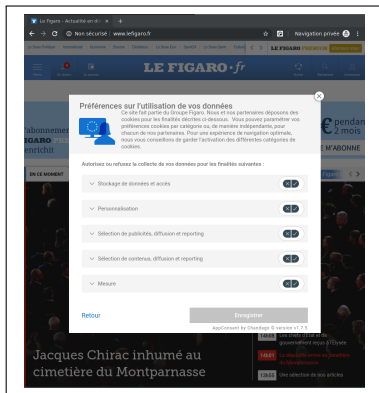
to understand how you use our site and to improve your experience. This includes Personalisation; ad selection, delivery, reporting; measurement; on storage and access. To accept or manage the use of cookies [click here](#). You may read more about vendors that we use by clicking [Show](#)

2 JavaScript API



3 consent string (“Daisybit”)

- ex: “BOEFEAyOEFEAyAHABDENAI4AAAB9vABAASA”
- Public format
- \pm base64 of an array of fields



4 Global Vendor List

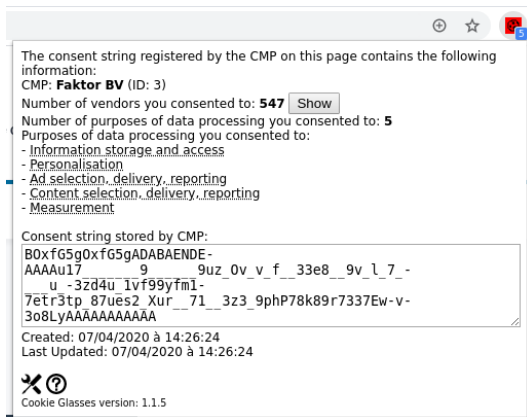
```
▼ 5:
  id: 25
  name: "Oath (EMEA) Limited"
  ▼ policyUrl: "https://policies.oath.com/ie/en/oath/privacy/index.html"
  ▼ purposeIds:
    0: 1
    1: 2
  ▼ legIntPurposeIds:
    0: 3
    1: 5
  ▼ featureIds:
    0: 1
    1: 2
    2: 3
```

- Currently 595 advertising companies

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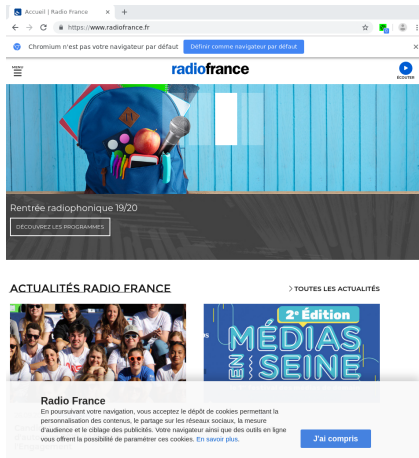
Browser extension: Cookie Glasses

- Our extension: <https://github.com/Perdu/Cookie-Glasses>
- Queries the CMP like an advertiser (3rd party position)
- Displays consent string in real-time



Demos with wired.co.uk and flashscore.com (click for links!)

Other suspected violations



(a) *No way to opt out*

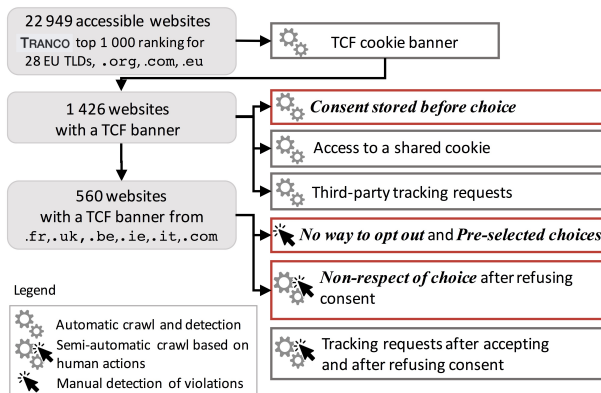


(b) *Pre-selected choices*

| Suspected violation | legal requirement | Legal source |
|------------------------------|-----------------------------------|---|
| Consent stored before choice | Prior, unambiguous consent | arts. 5(3) ePD, 6(1) GDPR, 29WP |
| Non-respect of choice | Lawfulness principle | arts. 5(1)(a), 6(1) GDPR, art. 5(3) ePD |
| No way to opt out | Unambiguous, freely given consent | arts. 4(11) 7(4) GDPR, rec. 66 ePD, 29WP |
| Pre-selected choices | Unambiguous consent | art. 4(11), rec 32 GDPR, Planet 49 ruling |

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- Leverage JS API to detect cookie banners and obtain consent strings
- <https://github.com/Perdu/cookinspect>



| CMP | Number of websites | Suspected violations | | | |
|-------------------------|--------------------|------------------------------|-------------------|----------------------|-----------------------|
| | | Consent stored before choice | No way to opt out | Pre-selected choices | Non-respect of choice |
| Quantcast | 174 | 3.4% (6/174) | 5.2% (9/174) | 37.8% (62/164) | 0.6% (1/164) |
| OneTrust | 50 | 74.0% (37/50) | 4.0% (2/50) | 83.3% (40/48) | 8.3% (4/48) |
| Didomi | 41 | 0.0% (0/41) | 0.0% (0/41) | 39.0% (16/41) | 0.0% (0/41) |
| Sourcepoint | 34 | 2.9% (1/34) | 0.0% (0/34) | 64.7% (22/34) | 2.9% (1/34) |
| Evidon | 22 | 0.0% (0/22) | 22.7% (5/22) | 25.0% (4/16) | 25.0% (4/16) |
| iubenda | 20 | 0.0% (0/20) | 0.0% (0/20) | 0.0% (0/20) | 0.0% (0/20) |
| Clickio | 14 | 0.0% (0/14) | 0.0% (0/14) | 0.0% (0/14) | 0.0% (0/14) |
| Oath | 12 | 0.0% (0/12) | 0.0% (0/12) | 16.7% (2/12) | 0.0% (0/12) |
| Triboo Media | 10 | 0.0% (0/10) | 0.0% (0/10) | 0.0% (0/10) | 0.0% (0/10) |
| Commanders Act | 10 | 40.0% (4/10) | 0.0% (0/10) | 80.0% (8/10) | 0.0% (0/10) |
| Axel Springer | 10 | 60.0% (6/10) | 70.0% (7/10) | 100.0% (3/3) | 33.3% (1/3) |
| OneTag | 9 | 0.0% (0/9) | 0.0% (0/9) | 100.0% (9/9) | 0.0% (0/9) |
| Cookie Trust WG. | 8 | 25.0% (2/8) | 25.0% (2/8) | 60.0% (3/5) | 0.0% (0/5) |
| Conversant Europe | 7 | 0.0% (0/7) | 0.0% (0/7) | 100.0% (7/7) | 0.0% (0/7) |
| Ensign | 7 | 0.0% (0/7) | 0.0% (0/7) | 100.0% (7/7) | 0.0% (0/7) |
| SIRDATA | 5 | 0.0% (0/5) | 0.0% (0/5) | 0.0% (0/5) | 0.0% (0/5) |
| Chandago | 5 | 0.0% (0/5) | 0.0% (0/5) | 0.0% (0/5) | 0.0% (0/5) |
| incorrect CMP ID | 9 | 11.1% (1/9) | 11.1% (1/9) | 62.5% (5/8) | 12.5% (1/8) |
| others | 73 | 11.0% (8/73) | 6.8% (5/73) | 54.4% (37/68) | 22.1% (15/68) |
| No consent string found | 40 | 0.0% (0/40) | 17.5% (7/40) | 50.0% (11/22) | 0.0% (0/22) |
| all | 560 | 11.6% (65/560) | 6.8% (38/560) | 46.5% (236/508) | 5.3% (27/508) |

Results

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Offending websites

Consent stored before choice

msn.com
softonic.com
merriam-webster.com
britannica.com
slate.com
thesun.co.uk
medicalnewstoday.com
thetimes.co.uk
techtargert.com
vanityfair.com
filehippo.com
timesonline.co.uk
flashscore.com
vogue.com
wired.co.uk
allocine.fr
leo.org
liberation.fr
immobilienscout24.de
rightmove.co.uk
laposte.fr
lepoint.fr
vogue.co.uk
rp-online.de
larousse.fr
tv2.dk
diretta.it
[...]

No way to opt out

msn.com
healthline.com
economist.com
slate.com
medicalnewstoday.com
discogs.com
ilmessaggero.it
ticketmaster.co.uk
tomshw.it
ilgazzettino.it
ilmattino.it
radiofrance.fr
lbc.co.uk
leggo.it
eklablog.fr
heart.co.uk
ticketmaster.fr
universalis.fr
style24.it
cheapflights.co.uk
ticketmaster.ie
gmx.fr
msn.co.uk
radiox.co.uk
mammemagazine.it
tuobenessere.it
investireoggi.it
[...]

Pre-selected choices

cnn.com
reuters.com
tinyurl.com
bloomberg.com
fandom.com
w3schools.com
mashable.com
softonic.com
wikia.com
merriam-webster.com
britannica.com
fortune.com
inc.com
fastcompany.com
gamepedia.com
mirror.co.uk
howstuffworks.com
thesun.co.uk
arstechnica.com
gamespot.com
marca.com
libero.it
lemonde.fr
businessweek.com
thetimes.co.uk
techtargert.com
as.com
[...]

Non-respect of choice

reuters.com
telegraph.co.uk
sindonews.com
softonic.com
wowhead.com
techtargert.com
makeuseof.com
bustle.com
filehippo.com
cdiscount.com
flashscore.com
allocine.fr
diretta.it
nationalrail.co.uk
sudouest.fr
flashresultats.fr
reuters.co.uk
iltempo.it
ilgiornaledivivenza.it
brujitafr.fr
turbo.fr
charentelibre.fr
deco.fr
androidpit.fr
cgrcinemas.fr
goldens.fr
radiocontact.be

Offending websites

Consent stored before choice

[msn.com](#)
[softonic.com](#)
[merriam-webster.com](#)
[britannica.com](#)
[slate.com](#)
[thesun.co.uk](#)
[medicalnewstoday.com](#)
[thetimes.co.uk](#)
[techtargget.com](#)
[vanityfair.com](#)
[filehippo.com](#)
[timesonline.co.uk](#)
[flashscore.com](#)
[vogue.com](#)
[wired.co.uk](#)
[allocine.fr](#)
[leo.org](#)
[liberation.fr](#)
[immobilienscout24.de](#)
[rightmove.co.uk](#)
[laposte.fr](#)
[lepoint.fr](#)
[vogue.co.uk](#)
[rp-online.de](#)
[larousse.fr](#)
[tv2.dk](#)
[diretta.it](#)
 [...]

No way to opt out

[msn.com](#)
[healthline.com](#)
[economist.com](#)
[slate.com](#)
[medicalnewstoday.com](#)
[discogs.com](#)
[ilmessaggero.it](#)
[ticketmaster.co.uk](#)
[tomshw.it](#)
[ilgazzettino.it](#)
[ilmattino.it](#)
[radiofrance.fr](#)
[lbc.co.uk](#)
[leggo.it](#)
[eklablog.fr](#)
[heart.co.uk](#)
[ticketmaster.fr](#)
[universalis.fr](#)
[style24.it](#)
[cheapflights.co.uk](#)
[ticketmaster.ie](#)
[gmx.fr](#)
[msn.co.uk](#)
[radiox.co.uk](#)
[mammemagazine.it](#)
[tuobenessere.it](#)
[investireoggi.it](#)
 [...]

Pre-selected choices

[cnn.com](#)
[reuters.com](#)
[tinyurl.com](#)
[bloomberg.com](#)
[fandom.com](#)
[w3schools.com](#)
[mashable.com](#)
[softonic.com](#)
[wikia.com](#)
[merriam-webster.com](#)
[britannica.com](#)
[fortune.com](#)
[inc.com](#)
[fastcompany.com](#)
[gamepedia.com](#)
[mirror.co.uk](#)
[howstuffworks.com](#)
[thesun.co.uk](#)
[arstechnica.com](#)
[gamespot.com](#)
[marca.com](#)
[libero.it](#)
[lemonde.fr](#)
[businessweek.com](#)
[thetimes.co.uk](#)
[techtargget.com](#)
[as.com](#)
 [...]

Non-respect of choice

[reuters.com](#)
[telegraph.co.uk](#)
[sindonews.com](#)
[softonic.com](#)
[wowhead.com](#)
[techtargget.com](#)
[makeuseof.com](#)
[bustle.com](#)
[filehippo.com](#)
[cdiscount.com](#)
[flashscore.com](#)
[allocine.fr](#)
[diretta.it](#)
[nationalrail.co.uk](#)
[sudouest.fr](#)
[flashresultats.fr](#)
[reuters.co.uk](#)
[iltempo.it](#)
[ilgiornaledivivenza.it](#)
[brujitafr.fr](#)
[turbo.fr](#)
[charentelibre.fr](#)
[deco.fr](#)
[androidpit.fr](#)
[cgrcinemas.fr](#)
[goldens.fr](#)
[radiocontact.be](#)

Who is responsible?

- CMPs or publishers?
- Joint responsibility

| CMP | Number of websites | Suspected violations | | | |
|-------------------------|--------------------|------------------------------|-------------------|----------------------|-----------------------|
| | | Consent stored before choice | No way to opt out | Pre-selected choices | Non-respect of choice |
| Quantcast | 174 | 3.4% (6/174) | 5.2% (9/174) | 37.8% (62/164) | 0.6% (1/164) |
| OneTrust | 50 | 74.0% (37/50) | 4.0% (2/50) | 83.3% (40/48) | 8.3% (4/48) |
| Didomi | 41 | 0.0% (0/41) | 0.0% (0/41) | 39.0% (16/41) | 0.0% (0/41) |
| Sourcepoint | 34 | 2.9% (1/34) | 0.0% (0/34) | 64.7% (22/34) | 2.9% (1/34) |
| Evidon | 22 | 0.0% (0/22) | 22.7% (5/22) | 25.0% (4/16) | 25.0% (4/16) |
| iubenda | 20 | 0.0% (0/20) | 0.0% (0/20) | 0.0% (0/20) | 0.0% (0/20) |
| Clickio | 14 | 0.0% (0/14) | 0.0% (0/14) | 0.0% (0/14) | 0.0% (0/14) |
| Oath | 12 | 0.0% (0/12) | 0.0% (0/12) | 16.7% (2/12) | 0.0% (0/12) |
| Triboo Media | 10 | 0.0% (0/10) | 0.0% (0/10) | 0.0% (0/10) | 0.0% (0/10) |
| Commanders Act | 10 | 40.0% (4/10) | 0.0% (0/10) | 80.0% (8/10) | 0.0% (0/10) |
| Axel Springer | 10 | 60.0% (6/10) | 70.0% (7/10) | 100.0% (3/3) | 33.3% (1/3) |
| OneTag | 9 | 0.0% (0/9) | 0.0% (0/9) | 100.0% (9/9) | 0.0% (0/9) |
| Cookie Trust WG. | 8 | 25.0% (2/8) | 25.0% (2/8) | 60.0% (3/5) | 0.0% (0/5) |
| Conversant Europe | 7 | 0.0% (0/7) | 0.0% (0/7) | 100.0% (7/7) | 0.0% (0/7) |
| Enlighten | 7 | 0.0% (0/7) | 0.0% (0/7) | 100.0% (7/7) | 0.0% (0/7) |
| SIRDATA | 5 | 0.0% (0/5) | 0.0% (0/5) | 0.0% (0/5) | 0.0% (0/5) |
| Chandago | 5 | 0.0% (0/5) | 0.0% (0/5) | 0.0% (0/5) | 0.0% (0/5) |
| incorrect CMP ID | 9 | 11.1% (1/9) | 11.1% (1/9) | 62.5% (5/8) | 12.5% (1/8) |
| others | 73 | 11.0% (8/73) | 6.8% (5/73) | 54.4% (37/68) | 22.1% (15/68) |
| No consent string found | 40 | 0.0% (0/40) | 17.5% (7/40) | 50.0% (11/22) | 0.0% (0/22) |
| all | 560 | 11.6% (65/560) | 6.8% (38/560) | 46.5% (236/508) | 5.3% (27/508) |

- 1 Introduction
- 2 IAB Europe's Transparency and Consent Framework
- 3 Suspected violations
- 4 Crawls
- 5 Conclusion / Opening

- We studied websites using IAB Europe's Transparency and Consent Framework (TCF)
- We crawled for suspected violations:
 - 1,426 websites automatically
 - 560 websites semi-automatically
- We found suspected violations of the GDPR in 54% of websites
 - 141 websites register consent before user choice
 - 38 websites offer no way to opt out
 - 236 websites pre-select choices
 - 27 websites don't respect user's choice
- Supported by a legal analysis by an expert in law
- More in the paper! (shared consent, fake consent strings, number of trackers, discussions...)

- NOYB association filed a complaint to the CNIL against 3 publishers



10. 12. 2019

Say "NO" to cookies – yet see your privacy crumble?

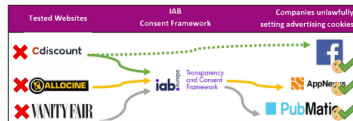
Cookie banners of large French webpages turn a clear "NO" into "fake consent"
noyb.eu files three GDPR complaints with the French Data Protection Regulator (CNIL)

Relying on the open source extension "Cookie Glasses" developed by researchers of the French institute Inria, *noyb.eu* identified countless violations of European and French cookie privacy laws as CDiscount, Allociné and Vanity Fair all turn a rejection of cookies by users into a "fake consent". The privacy enforcement non-profit *noyb.eu* filed three formal complaints ([Sample Complaint against CDiscount in English](#)) with the French Data Protection Authority (CNIL) today.


Up to 565 "fake consents" per users. Despite users' going through the trouble of "rejecting" countless cookies on the French eCommerce page [CDiscount](#), the movie guide page [Allocine.fr](#) and the fashion magazine [Vanity Fair](#), these webpages have sent digital signals to tracking companies claiming that users have agreed to being tracked online. CDiscount has sent "fake consent" signals to 431 tracking companies per user, Allociné to 565 and Vanity Fair to 375, as the analysis of the data flows now show.

Major online advertisement companies rely on "fake consent". Among the recipients of this "fake consent" are Facebook and the online advertising companies [AppNexus](#) and [PubMatic](#). These companies have consequently placed tracking cookies after users' have clearly objected to all tracking.


IAB framework plays key role. All webpages used the so-called "[IAB Transparency and Consent Framework](#)", an industry standard behind most cookie banners, to communicate the "fake consent". Only Facebook does currently not use the IAB Framework - but still placed cookies without consent.




Questions?


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