

Do Cookie Banners Respect my Choice? Measuring Legal Compliance of Banners from IAB Europe's Transparency and Consent Framework

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IEEE S&P, 2020.05.19

Introduction

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

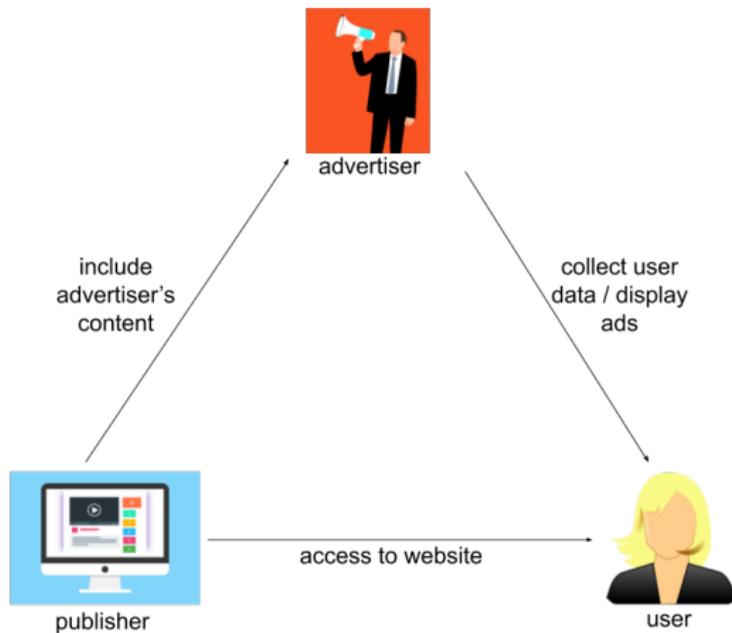


- IAB Europe - organization of advertisers
- Transparency and Consent Framework (TCF)

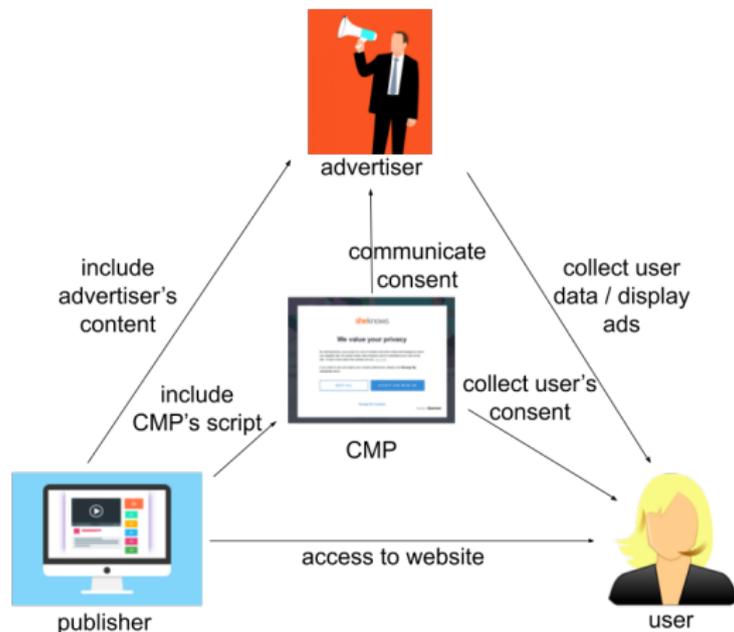


- 1 Introduction
- 2 IAB Europe's Transparency and Consent Framework
- 3 Suspected violations
- 4 Crawls
- 5 Conclusion / Opening

Background: Business model of the web



Background: Business model of the web



- 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)

- 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.

1 Purposes

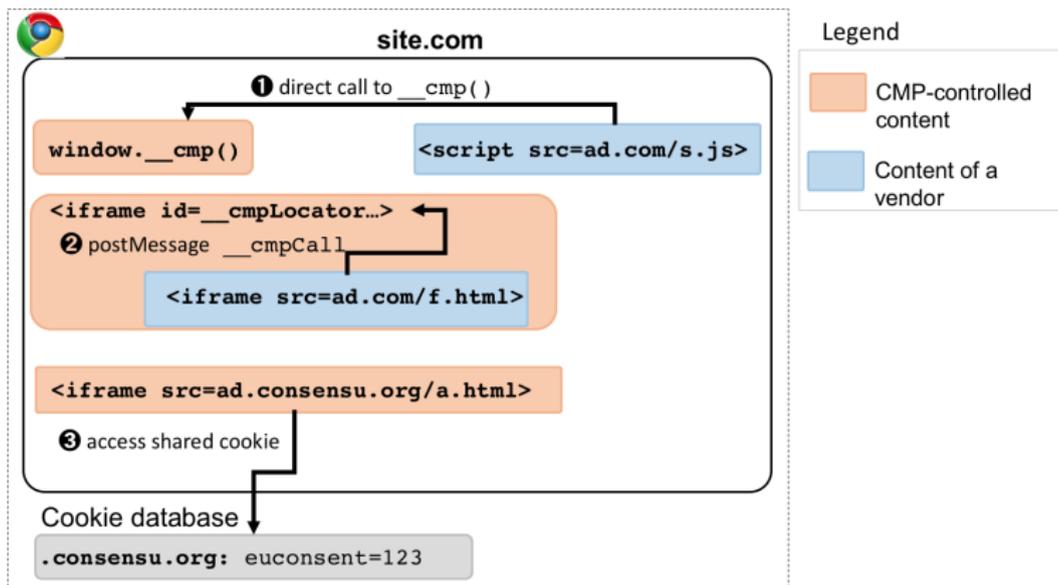
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4	Content delivery, reporting	The collection of information about your use of the content, and combination with previously collected information, used to measure, understand, and report on your usage of the service. This does not include personalisation, 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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1 Purposes (example)

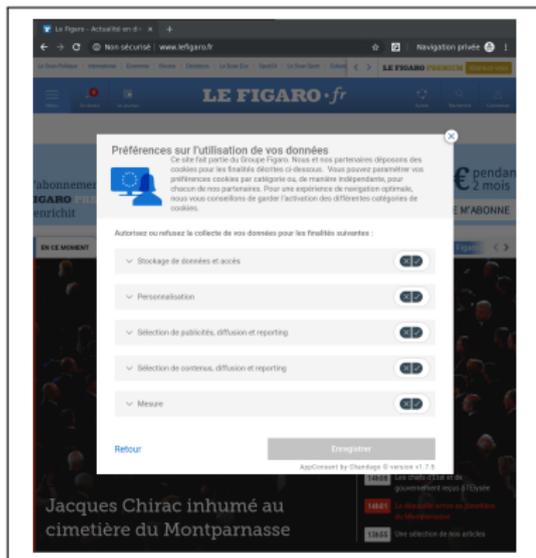
The screenshot shows a OneTrust Privacy Settings dialog box. The dialog has a title bar with the OneTrust logo and the text "Privacy Settings". Below the title bar is a sidebar menu with the following items: "Your Privacy", "Strictly Necessary Cookies", "Social Media", "Ad selection, delivery and reporting", "Measurement", and "Personalisation". The "Personalisation" item is selected and highlighted with a blue underline. The main content area of the dialog is titled "Content selection, delivery and reporting" and contains a toggle switch that is currently turned off. Below the title is a paragraph of text: "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." At the bottom of the dialog, there is a "Powered by OneTrust" logo, a "Save Preferences" button, and a blue "Accept all" button. The background of the page is a news website with various headlines and images, including a photo of Donald Trump and a photo of Carrie Symonds.

2 JavaScript API



3 consent string (“Daisybit”)

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



Call CMP

CMP: M6 Web (ID: 136)
Number of consented to vendors: **96**
Number of consented to purposes: **5**
Consented to purposes:
- Information storage and access
- Personalisation
- Ad selection, delivery, reporting
- Content selection, delivery, reporting
- Measurement

Consent string stored by CMP:
B0npFzrOnpHhGCIABBFCK-
AAAAjKxNyfZiERoTq0t4BBiADED-
CCCCAwAAIABIICEAISAIBKAsAQBAAMABQJQAAABAQIAAAE
AAAAIAgACAAAAAQAAAAAAAAA

Created: 29/09/2019 à 10:47:45
Last Updated: 29/09/2019 à 10:59:25

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

The consent string registered by the CMP on this page contains the following information:

CMP: **Faktor BV** (ID: 3)

Number of vendors you consented to: **547**

Number of purposes of data processing you consented to: **5**

Purposes of data processing you consented to:

- [Information storage and access](#)
- [Personalisation](#)
- [Ad selection, delivery, reporting](#)
- [Content selection, delivery, reporting](#)
- [Measurement](#)

Consent string stored by CMP:

```
B0xfG5g0xfG5gADABAENDE-  
AAAAu17_9_9uz_0v_v_f_33e8__9v_l_7_-  
_u_-3zd4u_1vf99yfml_-  
7etr3tp_87ues2_Xur__71__3z3_9phP78k89r7337Ew-v-  
3o8LyAAAAAAAAAAAA
```

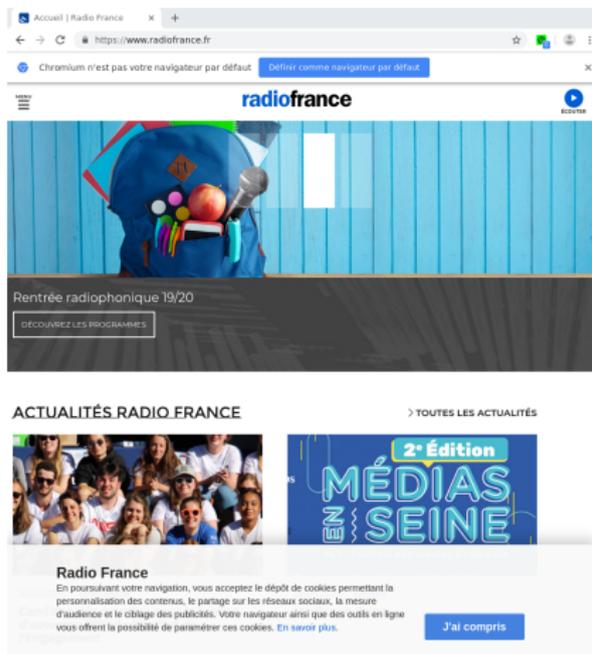
Created: 07/04/2020 à 14:26:24
Last Updated: 07/04/2020 à 14:26:24

 Cookie Glasses version: 1.1.5



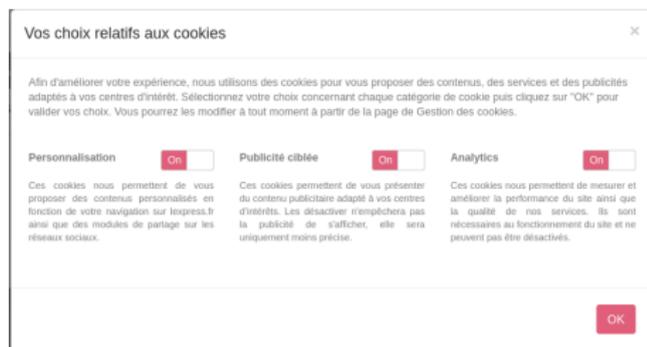
Demos with wired.co.uk and flashscore.com (click for links!)

Other suspected violations



The screenshot shows the Radio France website with a cookie consent banner at the bottom. The banner text reads: "Radio France En poursuivant votre navigation, vous acceptez le dépôt de cookies permettant la personnalisation des contenus, le partage sur les réseaux sociaux, la mesure d'audience et le ciblage des publicités. Votre navigateur ainsi que des outils en ligne vous offrent la possibilité de paramétrer ces cookies. [En savoir plus.](#)

(a) No way to opt out



The screenshot shows a "Vos choix relatifs aux cookies" dialog box. It contains three categories with "On" selected in red buttons:

- Personnalisation** On Off
- Publicité ciblée** On Off
- Analytics** On Off

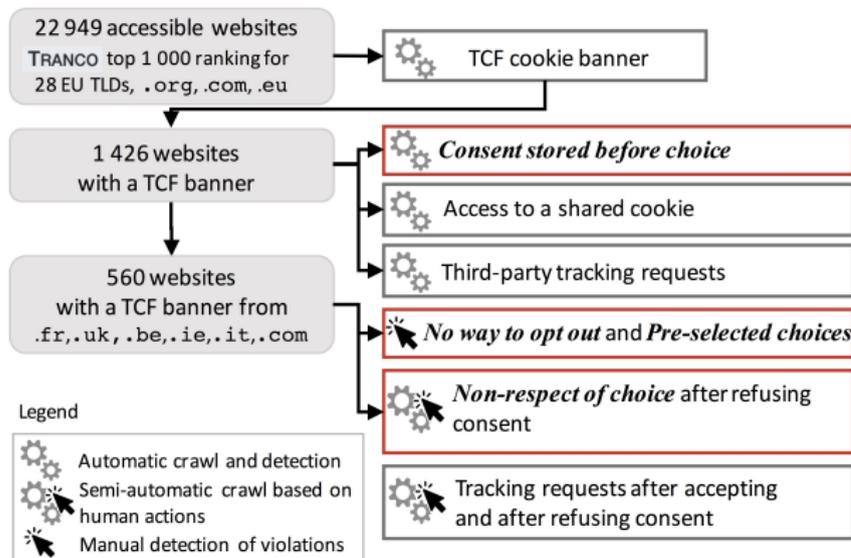
Each category has a corresponding text block explaining its purpose. An "OK" button is located at the bottom right.

(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)
Ensignten	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)

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Triboo Media	10	0.0% (0/10)	0.0% (0/10)	0.0% (0/10)	0.0% (0/10)
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SIRDATA	5	0.0% (0/5)	0.0% (0/5)	0.0% (0/5)	0.0% (0/5)
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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
techtargt.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
ilmessengero.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
techtargt.com
as.com
[...]

Non-respect of choice

reuters.com
telegraph.co.uk
sindonews.com
softonic.com
wowhead.com
techtargt.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
techtarget.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
techtarget.com
as.com
[...]

Non-respect of choice

reuters.com
telegraph.co.uk
sindonews.com
softonic.com
wowhead.com
techtarget.com
makeuseof.com
bustle.com
filehippo.com
cdiscout.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)
Ensignten	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?

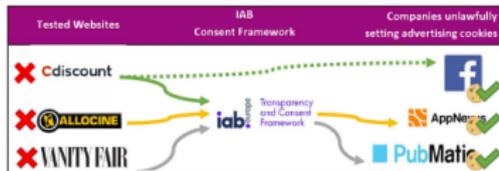
Cookie banners of large French webpages turn a clear "NO" into "fake consent"
noyb.eu files three GDPR complaints with the French Data Protection Regulator (CNIL)

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, Allocine 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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