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# Europe's online encyclopaedias

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Equal access to knowledge  
of general interest?

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## IN-DEPTH ANALYSIS

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The post-fact era – in which emotions are trumping evidence, while trust in institutions, expertise and mainstream media is declining – is putting our information ecosystem under strain. At a time when information is increasingly being manipulated for ideological and economic purposes, public access to sources of trustworthy, general-interest knowledge – such as national online encyclopaedias – can help boost our cognitive resilience. Basic, reliable background information about history, culture, society and politics is an essential part of our societies' complex knowledge ecosystem and an important tool for any citizen searching for knowledge, facts and figures.

The annexes in this paper are dedicated to individual countries and contain contributions from Ilze Eglite (coordinating information specialist), Evarts Anosovs, Marie-Laure Augere-Granier, Jan Avau, Michele Bigoni, Krisztina Binder, Kristina Grosek, Matilda Ekehorn, Roy Hirsh, Sorina Silvia Ionescu, Ana Martinez Juan, Ulla Jurviste, Vilma Karvelyte, Maria Kollarova, Veronika Kunz, Elena Lazarou, Tarja Laaninen, Odile Maisse, Helmut Masson, Marketa Pape, Raquel Juncal Passos Rocha, Eric Pichon, Anja Radjenovic, Beata Rojek-Podgorska, Nicole Scholz, Anne Vernet and Dessislava Yougova.

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## EXECUTIVE SUMMARY

Pressure on Europe's information ecosystem – both in and beyond the European Union's Member States – is growing. The ever-increasing volume of information accessible online is not matched by its level of reliability. There is concern over the potential impact of a 'post-fact' era (in which objective facts and evidence matter less than emotions), and over the proliferation of misinformation, disinformation and propaganda targeting the EU's democratic system and values.

At the same time, public trust in mainstream media, government institutions and experts is decreasing. In the face not only of pro-Kremlin disinformation campaigns but also of ISIL/Da'esh jihadi terrorist propaganda, the EU has taken the first steps towards counteracting information campaigns against it by third parties, including by debunking hostile narratives and carrying out initiatives to tackle 'fake news'.

Following the November 2016 presidential election in the United States, media consumers are increasingly encouraged to check the facts themselves and to think twice before sharing news items on social media. However, the algorithms and business models of the most popular search engines and social media networks have prompted questions about their role and responsibility as intermediaries between information sources and users.

Public access to basic, reliable background information about history, culture, society and politics is an essential part of our societies' complex knowledge ecosystem. Trustworthy general-interest knowledge is an important tool for anybody searching for basic information or facts and figures, helping them to understand the 'big picture' and avoid being manipulated.

For information to be truly accessible to everyone, it needs to be available in their mother tongue. Whereas Europe has produced and exported knowledge for millennia, our online encyclopaedia landscape is heterogeneous. Not all Europeans today are able to access reliable information and knowledge directly from online encyclopaedias, in their respective language. For instance, whereas English speakers have no shortage of information, a number of both small and large language communities have very limited resources. Some countries, such as Latvia, have identified and attempted to close these gaps in the access to general knowledge. Others, such as Denmark, risk witnessing new gaps through the discontinuation of their national encyclopaedias. People in Turkey currently have no access to any online encyclopaedia, including Wikipedia, which the authorities banned in April 2017. Meanwhile, Russia appears to perceive its revamped national encyclopaedia as a new 'territory of truth'.

Amid growing pressure on our information ecosystem, the importance of general knowledge as the fabric that binds our societies together, increases. As the 2018 European Year of Cultural Heritage sharpens the focus on Europe's rich and diverse multilingual roots, knowledge and access to it play a key role in the efforts to boost our cognitive resilience.

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### Scope of this paper

The sharing of knowledge and information – particularly online – happens within language communities and is therefore not limited by geographical borders. This is why the current paper covers Europe as a whole, including the EU, but also the Western Balkans, Ukraine, Turkey and Russia, from where the largest groups of non-mother-tongue speakers from third countries originate.<sup>1</sup> With this context in mind, the paper assesses the available online encyclopaedias in terms of their accessibility and quantity, without assessing their quality or credibility. Although the list of online encyclopaedias presented here is not exhaustive, they have been selected from among what appear to be the key such sources in Europe.

Traditional encyclopaedias are considered 'scholarly' sources, reference works written by academics. The growth of Wikipedia as a user-generated online encyclopaedia and a source of competition has changed the encyclopaedia landscape and put considerable pressure on national encyclopaedias. As a result, today's audiences are more likely to expect entries to be up to date, among other things. In addition, the participatory culture that has developed alongside the evolution of social media is challenging the 'expert paradigm' and blurring the lines between authors and audiences.

## 1. Introduction: Knowledge – a cornerstone of democracy

### 1.1. Cognitive resilience in an era of 'junk news' and disinformation

#### 1.1.1. Increasing need for reliable resources amid growing mistrust

How do we strengthen our cognitive resilience<sup>2</sup> in the face of third-party influence campaigns? How do we protect our democratic values and prevent our information 'immune system' from being weakened by disinformation, false news and propaganda from third parties<sup>3</sup> in an era where trust in mainstream media and the 'elites' – authorities, institutions, politicians and experts – is declining?<sup>4</sup>

From a historical perspective, the mechanisation of the printing press in the 15th century revolutionised the access to knowledge beyond the 'ivory towers' of the information elite in Europe. Later, public libraries played and still play a key role as gateways to knowledge and tools for the democratic inclusion of citizens.<sup>5</sup> In recent decades, the internet has

<sup>1</sup> There are Turkish-speaking minorities in Bulgaria, Cyprus and Greece. There are over 2 million Turkish speakers in Germany, as well as significant Turkish-speaking communities in France, the Netherlands, Austria and Belgium. With some 5 % mother tongue-speakers, Russian is one of the most widely spoken non-EU-languages in the EU, especially in Member States bordering Russia ([Special Eurobarometer 386](#), June 2012).

<sup>2</sup> F. Splidsboel Hansen defines 'cognitive resilience' as 'the ability to withstand pressure from various ideas spread, for instance, through disinformation'. He explains that the term resilience is now widely accepted as a concept relating to the protection of critical functions of society. The term 'cognitive resilience', he points out, is 'very similar, only it plays out in the cognitive domain as opposed to the physical domain. It will establish a cognitive "firewall", which prevents the disinformation from taking root and being internalised by members of the target audience'. F. Splidsboel Hansen, [Russian hybrid warfare — A study of disinformation](#), Danish Institute for International Studies, DIIS report 2017:06.

<sup>3</sup> European Parliament resolution of 23 November 2016 on EU strategic communication to counteract propaganda against it by third parties ([2016/2030\(INI\)](#)).

<sup>4</sup> The [2017 Edelman Trust barometer](#) revealed the largest-ever decrease in trust across government institutions, businesses, media and NGOs. According to this survey, trust in the media (43%) is at an all-time low in 17 countries, while trust in the government (41%) has decreased in 14 countries, with the government being the least-trusted institution in half of the 28 countries surveyed.

<sup>5</sup> As noted by Claire Wardle and Hossein Derakhshan in an October 2017 report for the Council of Europe, ['Information disorder: Toward an interdisciplinary framework for research and policy](#)

made ever-growing amounts of information accessible. It has also given rise to collaborative online encyclopaedias that not only inform the global public but also exemplify a participatory culture, where users no longer merely consume news and information on social media passively, but engage as contributors or producers of content ('prosumers'<sup>6</sup>).

Democratisation of information is a double-edged sword. The head of the Russian federal state news agency, Rossiya, Dmitry Kiselyov, asserted in 2014 that information wars have become 'the main type of warfare'.<sup>7</sup> Amid the crisis in Ukraine, pro-Kremlin information campaigns – also targeting audiences in EU Member States – have boosted Moscow's narrative of a weak and morally decayed EU that is about to collapse. This narrative is propelled by different types of disinformation, including conspiracy theories,<sup>8</sup> according to which the EU is behind a long list of evil plots, ranging from banning the baptism of children to secretly orchestrating the March 2017 terror attack in London to deter Theresa May from triggering Brexit.<sup>9</sup> Whilst, as some argue, these narratives may have been initiated by the Kremlin and boosted by state-operated bots and trolls<sup>10</sup> as part of a large-scale computational propaganda scheme,<sup>11</sup> their practical dissemination among society has, at least partially, been facilitated by citizen amplifiers (users who believe the fabricated stories or find them entertaining enough to like and/or share).<sup>12</sup>

Disinformation and false news attracted international media attention during the US presidential election campaign in 2016. A declassified January 2017 US intelligence assessment said that Russia used professional 'trolls' (internet warriors) and Russian state broadcaster RT 'as part of its influence efforts'<sup>13</sup> in the course of the campaign.

Whereas tech companies Facebook and Twitter had previously downplayed the reach of Russian-paid content during the campaign, on 1 November 2017 they told US lawmakers that throughout its course, pro-Kremlin actors bought and published divisive ads aimed

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[making](#), public libraries seem to be among the few institutions not to have been affected by declining trust in public institutions. According to an August 2016 [analysis](#) by the US Pew Research Center among Americans, 78 % of adults and 87 % of millennials said they felt that public libraries help them find information that is trustworthy and reliable. The EU's 65 000 public libraries have some 100 million visitors, representing approximately 20 % of the entire EU population, as presented in a July 2016 research entitled '[Public libraries — their new role](#)', for the European Parliament's Culture and Education Committee (CULT), Directorate-General for Internal Policies, Policy Department B.

<sup>6</sup> See [Editorial](#), *Social Identities*, 2014, Vol. 20, Nos 4-5, pp. 259-261.

<sup>7</sup> '[Dmitry Kiselev Is Redefining the Art of Russian Propaganda](#)', *New Republic*, 2 July 2014. A year earlier, in February 2013, in an article written for the weekly Russian trade paper Military-Industrial Kurier, Russian Chief of the General Staff, General Valery Gerasimov, laid out a new theory of modern warfare, stating that 'The "rules of war" have changed. The role of non-military means of achieving political and strategic goals has grown, and, in many cases, they have exceeded the power of force of weapons in their effectiveness'.

<sup>8</sup> See N. Bentzen, [Understanding conspiracy theory](#), EPRS, European Parliament, April 2016.

<sup>9</sup> See the East StratCom Task Force's database: <https://euvsdisinfo.eu/disinformation-cases/>.

<sup>10</sup> [Digital Hydra: Security Implications of False Information Online](#), NATO StratCom CoE, November 2017.

<sup>11</sup> See '[Computational propaganda Worldwide](#)', Working Paper No. 2017.11.

<sup>12</sup> See N. Bentzen, [Understanding disinformation and fake news](#), EPRS, European Parliament, April 2017. In this sense, the 'democratised' dissemination blurs the line between disinformation (= systematic and intentional deception) and misinformation (= unintentional, misleading information).

<sup>13</sup> '[Assessing Russian Activities and Intentions in Recent US Elections](#)', published by the Office of the Director of National Intelligence of the USA on 6 January 2017.

at influencing both liberals and conservatives. Facebook said that Russia-backed posts reached up to 126 million Americans on its platform during and after the 2016 presidential election; Twitter, in turn, disclosed that it had found 2 752 accounts linked to Russian actors. Meanwhile, reports on Russian state institutions' investments in Facebook and Twitter have further increased the focus on these firms' role in Western societal and political developments.

Unlike the US intelligence community, US President Donald Trump has avoided direct accusations against his Russian counterpart. However, on 13 November 2017 the UK's Prime Minister, Theresa May, accused Moscow of 'seeking to weaponise information' and 'planting fake stories' to 'sow discord in the West and undermine our institutions'.<sup>14</sup> Spain's defence and foreign ministers have also alleged that state- and private-sector groups from 'Russian territory' as well as groups in Venezuela have been attempting to 'create instability in Europe' by setting up false accounts to amplify pro-separatist messages.<sup>15</sup>

### *1.1.2. The role of social media as vehicles for spreading false information*

According to the Digital News Report 2017 published by Reuters Institute for the Study of Journalism, 54 % of respondents worldwide used social media as a source of news in 2017.<sup>16</sup> This trend has sparked concern about increased bias and selective exposure to dis- and misinformation, due to isolation within 'filter bubbles' (defined by Techopedia as 'the intellectual isolation that can occur when websites make use of algorithms to selectively assume the information a user would want to see, and then give information to the user according to this assumption'<sup>17</sup>). The isolation potentially increases the risk of some groups being selectively exposed to disinformation and misinformation. Some 59 % of the news items shared are passed on without being read first;<sup>18</sup> furthermore, research conducted by the Stanford History Education Group, published in 2016, has suggested that most young, digital-savvy school and college students have difficulties in identifying fake news.<sup>19</sup> A report published by the Russian Fund of Fundamental Research found that only 17 % of young Russians are able to distinguish factual reports from propaganda.<sup>20</sup> Amid declining trust in news media, there is also concern about increasing 'news avoidance'.<sup>21</sup>

### *1.1.3. The need for accessible, reliable information in citizens' mother tongue*

Fact-checking and media literacy are often suggested as part of the solution to the problems described above. However, cross-checking and consulting reliable sources require that the information the user wishes to consult is available in their mother tongue. According to Special Eurobarometer 386, 'Europeans and their languages', nearly half of Europeans (46 %) are unable to hold a conversation in at least one additional

<sup>14</sup> [PM speech to the Lord Mayor's Banquet 2017](#), Prime Minister's Office, 13 November 2017.

<sup>15</sup> ['Spain sees Russian interference in Catalonia separatist vote'](#), Reuters, 13 November 2017.

<sup>16</sup> [Digital News Report 2017](#), Reuters Institute for the Study of Journalism.

<sup>17</sup> ['Definition — What does Filter Bubble mean?'](#), Techopedia, accessed on 14 November 2017.

<sup>18</sup> M. Gabielkov, A. Ramachandran, A. Chaintreau, A. Legout: ['Social Clicks: What and Who Gets Read on Twitter?'](#), ACM Sigmetrics/IFIP Performance 2016, June 2016.

<sup>19</sup> ['Evaluating information: The cornerstone of civic online reasoning'](#), executive summary, Stanford History Education Group, November 2016.

<sup>20</sup> ['Why Won't Wikipedia Ban Propaganda on Its Russian Site?'](#), *New Republic*, 1 August 2014.

<sup>21</sup> [News Avoidance](#), Reuters Institute for the Study of Journalism, 2017.

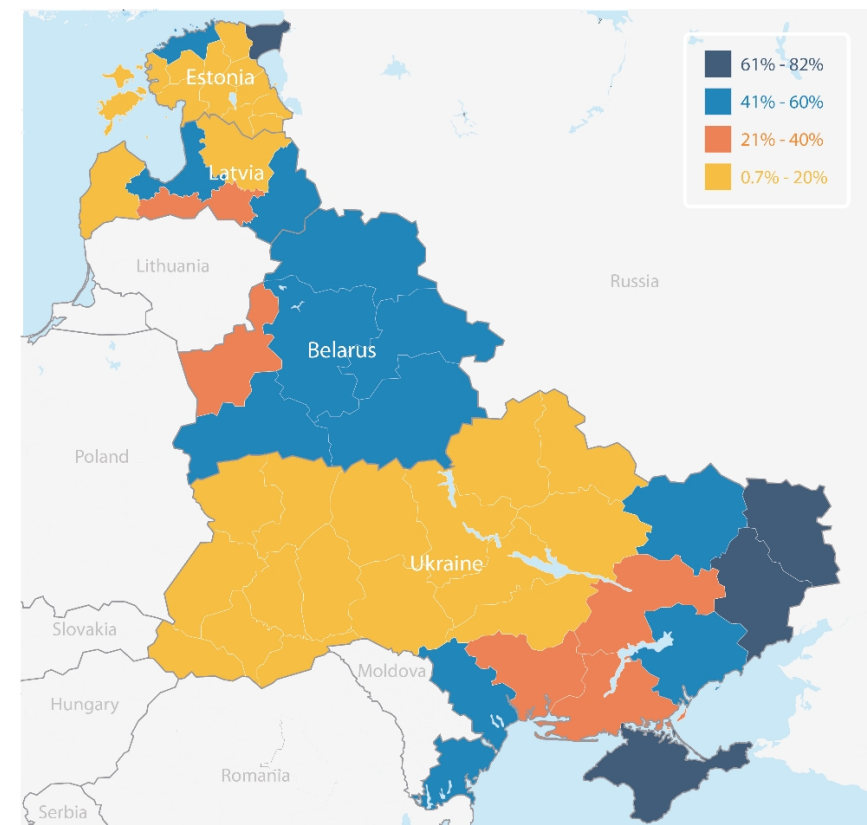


language.<sup>22</sup> This means that they need access to basic, reliable information in their mother tongue to be able to quickly check facts and compare sources themselves.

#### 1.1.4. Mother-tongue languages spoken in Europe

According to the 2012 Special Eurobarometer Report 386, German is the most widely spoken mother tongue in Europe, with 16 % of Europeans saying it is their first language, followed by Italian and English (13 % each), French (12 %), and then Spanish and Polish (8 % each). The mother tongue of the majority of Europeans is an official language of their country of residence, one such example being the German language in Germany. However, Latvians (71 %) and Estonians (80 %) are the least likely to use the official language of their respective country. In these countries, 27 % and 19 %, respectively, declared Russian as their mother tongue (see Figure 1).

**Figure 1 – Russian spoken as a first language in eastern Europe as a share of the total population**

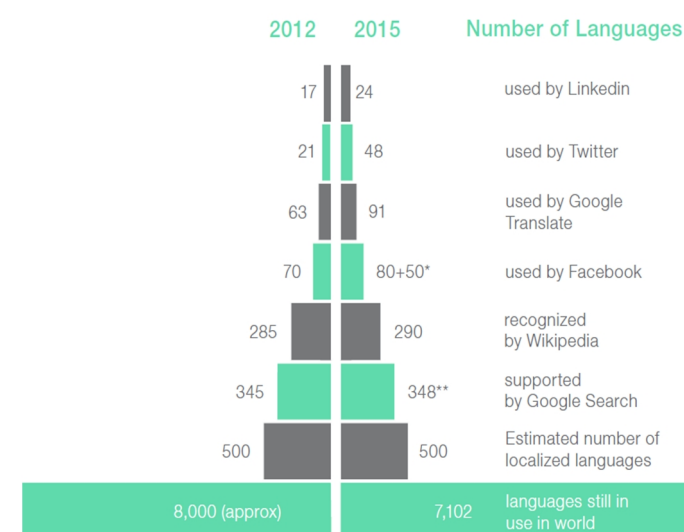


Data source: [One-europe.net](http://One-europe.net) (21 June 2014).

Russian speakers, who primarily consume news from Russian state-owned media, are particularly vulnerable to anti-EU propaganda.

**1.1.5. The impact of online presence on the survival of European languages**  
In addition to the short-term benefit of having relevant information in a language available online, there is a significant long-term benefit as well, not least in terms of multilingualism and language diversity. This understanding is reflected in the EU's stated 'aspiration to be united in diversity' and underpins the whole European project, embodied by the

**Figure 2 – Are the key online services truly multilingual?**



Source: [The State of Broadband 2015](http://TheStateofBroadband2015) report, ITU, Unesco.

<sup>22</sup> [Special Eurobarometer 386](http://SpecialEurobarometer386), June 2012.

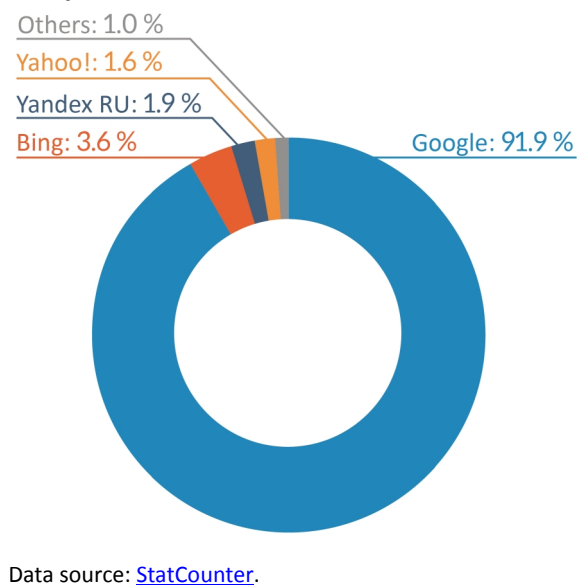
'harmonious co-existence of many languages in Europe'.<sup>23</sup>

With the number of living languages declining rapidly worldwide,<sup>24</sup> practical experience and studies suggest that the online presence of a given language significantly impacts the probability of its survival. In other words, a language with a weak online presence is more likely to die out (with potential significant socio-demographic consequences). According to a [2015 report](#) by the Broadband Commission for Digital Development, only 5 % of the world's languages (approximately 350 out of some 7 000 living languages) are represented online. Furthermore, only 53 % of the world's population has access to 'significant' Wikipedia content (and by extension, online content) in their primary language. The stronger the presence of a certain language, the greater the influence of the knowledge communicated in this language and subsequently its dominance. On the other hand, a weak presence of a language decreases the influence of the content presented in this language.

## 1.2. The power of knowledge intermediators

Google is by far Europe's most popular search engine, with a stable market share of more than 90 % in Europe in recent years (see Figure 3). In comparison, Google's closest competitor in Europe, Microsoft's search engine [Bing](#), had a market share of no more than 4 % in Europe as of July 2017, up from 2 % in 2012. Worldwide, Yandex – Russia's most popular search engine – overtook Bing as the world's fourth search engine in 2013 and is growing rapidly.<sup>25</sup> Yandex is aiming to expand in Western Europe and has launched an English-only search engine as well as a digital mapping service, which will reportedly serve as a 'basement' for future geolocation services.<sup>26, 27</sup>

**Figure 3 – Search engine market share, Europe, 07/2012-2017**



<sup>23</sup> [What role does the EU play in promoting languages?](#), European Commission.

<sup>24</sup> According to a [Unesco study](#), at least 50 % of the world's more than 6 000 languages are losing speakers. The 2003 study estimated that in most regions of the world, approximately 90 % of the languages may be replaced by other dominant ones by the end of the 21st century. The same study details that about 97 % of the world's people speak about 4 % of the world's languages; conversely, about 96 % of the world's languages are spoken by about 3 % of the world's people.

<sup>25</sup> '[Yandex Overtakes Bing as World's Fourth Search Engine](#)', *The Wall Street Journal*, 11 February 2013.

<sup>26</sup> '[Russian Search Giant Yandex Rolls Into Europe](#)', TechCrunch, 6 November 2012.

<sup>27</sup> Yandex, for example, handles Cyrillic characters better than other search engines. In addition to its growing independence in the social media sphere, Russia is also pushing for increased internet independence; Russia's Security Council has instructed the country's Communications Ministry and Foreign Ministry to develop plans for a separate Internet infrastructure that would serve the five major emerging national economies (Brazil, Russia, India, China, and South Africa (BRICS)). Russia's Security Council reportedly discussed the initiative on 26 October 2017, and President Putin ordered the government to draw up a proposal by 1 August 2018. According to the Security Council's initiative, the BRICS would create their own system of 'duplicate domain name root servers' with the aim to protect against 'offensive operations in the information space' by Western countries hosting the world's most important internet infrastructure (online newspaper [Meduza](#), 28 November 2017).

### 1.2.1. Google: a reliable tool for citizen fact-checkers?

In the wake of the US election, fact-checking websites have mushroomed across the world, and media consumers are increasingly encouraged to check the facts themselves and think twice before sharing news items on social media. There are also increasing calls, including from the OECD, for children to receive instructions at school on how to spot fake news.<sup>28</sup> In a [2016 resolution](#) on EU strategic communication to counter anti-EU propaganda, the European Parliament highlighted the need to boost citizens' media and information literacy. In October 2017, the European Commission launched a call for proposals for a pilot project on [Media Literacy for All](#), aimed at testing innovative actions to boost citizens' ability to think critically.

Google's popularity in Europe makes it a key tool for individuals wishing to do research related to their topics of interest or to fact-check information. Consequently, Google plays a key role for digital/media literacy (a skill that is currently both widely debated and encouraged, in the face of increasing pro-Kremlin disinformation efforts). Google is often recommended as a tool for fact-checkers<sup>29</sup> and its position at the very core of European citizens' digital/media literacy places significant responsibility on the company's shoulders. However, the increased focus on Google's (and fellow tech companies') role in Russia's meddling in the US presidential election<sup>30</sup> and questions about these companies' business models<sup>31</sup> have led to increased scrutiny<sup>32</sup> of their role and values.<sup>33, 34</sup>

### 1.2.2. Despite changed algorithms, Google's selection methods still raise questions

When searching for information online, 91 % of participants in a study conducted by the University of Twente do not go beyond Google's top ten results, and 36 % do not go beyond the first three search results.<sup>35</sup> The proliferation of conspiracy theories highlights the ethical problems connected with this behavioural pattern: many such conspiracy theories revolve around the same (often anti-Semitic) narratives. Google has been under pressure to find solutions to its 'Holocaust problem': Google's top results<sup>36</sup> – the links deemed most relevant – until December 2016, at least,<sup>37</sup> – to questions such as 'Did the

<sup>28</sup> ['Teach schoolchildren how to spot fake news says OECD'](#), *The Guardian*, 18 March 2017.

<sup>29</sup> For example, a [video](#) published by the Internet Foundation in Sweden, which has been shared widely on social media and also published on the European Parliament's website, recommends using Google alongside authoritative sources, such as government agencies/ministries. The latter step implies that there is trust in information provided by the government (this might be the case in the Nordic countries, but, as shown in a 2015 [report](#), it is not a given, certainly not if the current decline in trust in the government continues).

<sup>30</sup> I. Lapowsky, ['Eight Revealing Moments From the Second Day of Russia Hearings'](#), *Wired*, 1 November 2017.

<sup>31</sup> ['Surveillance is the Business Model of the Internet: Bruce Schneier'](#), *Security Week*, 9 April 2014.

<sup>32</sup> The EU's General Data Protection Regulation will take effect in May 2018. This regulation provides citizens with more control over their data, ensuring that search engines cannot follow them online.

<sup>33</sup> Former Google design ethicist Tristan Harris has argued that Google and Facebook have built 'the most pervasive, centralized systems for steering human attention that has ever existed, while enabling skilled actors (addictive apps, bots,<sup>33</sup> foreign governments) to hijack our attention for manipulative ends'.

<sup>34</sup> 'The algorithms that seduce our children', *Financial Times*, 29 November 2017.

<sup>35</sup> Van Deursen & Van Dijk, ['Using the Internet: Skill related problems in users' online behavior'](#), University of Twente, June 2009.

<sup>36</sup> ['Google's holocaust problem'](#), Phil Bradley's weblog, 14 December 2016.

<sup>37</sup> ['Did the Holocaust happen? Google's top search results still say it's a hoax'](#), Mic.com, 10 January 2017.

Holocaust happen?' or 'Is the Holocaust real?', contained replies that the Holocaust was a hoax.<sup>38</sup> Since then, Google has reportedly adapted its search algorithms to highlight more authoritative sources in order to avoid contributing to the proliferation of conspiracy theories and misinformation.<sup>39</sup>

### 1.2.3. A conspiracy theory case study: *The Protocols of the Elders of Zion*

The changes Google made appear to have worked to a limited extent. An English-language InPrivate search (the InPrivate function helps prevent Internet Explorer from storing data about browsing sessions, thus limiting the algorithm bias of the search engine<sup>40</sup>) on 'the Protocols of the Elders of Zion' (an anti-Semitic fabricated text claiming to describe a Jewish conspiracy for global domination; it was a key part of Nazi anti-Semitic propaganda, which contributed to the Holocaust<sup>41</sup>) no longer returns conspiracy theorist websites among its top-ten results. However, when launching an equivalent German-language search on 'Protokolle der Weisen von Zion', four of the top-ten results (10 October 2017) were anti-Semitic conspiracy theory websites. For instance, the third result is the conspiracist website 'lupo cattivo – gegen die Weltherrschaft', while the sixth one is Metapedia, a white-supremacist, anti-Semitic, conspiracist online encyclopaedia using Wikipedia's open-source MediaWiki freeware, making the layout look identical to Wikipedia's. The top ten results of an InPrivate Google search in French, 'les Protocoles des Sages de Sion', included the radical anti-Semitic website Radio Islam.<sup>42</sup>

In all three languages – English, German and French – the searches were autocompleted by Google. All three searches returned sponsored links to the anti-Semitic book 'The Jewish Peril – Protocols of the Learned Elders of Zion', which is found on books.google.com. The top result in all three languages was Wikipedia. The English-language search returned Britannica.com among the top ten results. The French- and German-language search did not return a national encyclopaedia among the top ten results.

## 2. The roots and roles of European encyclopaedias

The history of encyclopaedias in Europe goes back over 2 000 years. The first encyclopaedia, of which only fragments have survived, was authored by Plato's nephew Speusippus, who died in 339/338 BC. The early Greek encyclopaedic tradition focused on documenting the spoken word. In Rome, the most influential early encyclopaedia was Pliny the Elder's *Historia Naturalis*, which served as a major inspiration and a key source for other encyclopaedias over the next 1 500 years, and is still deemed an important source of information regarding Roman art.<sup>43</sup> According to *Encyclopaedia Britannica*, the idea of the modern scientific encyclopaedia matured around 1300 AD with the *Compendium Philosophiae*; the first encyclopaedia striving for impartiality and

<sup>38</sup> ['Google results claim that the Holocaust didn't happen, and company won't change it'](#), *The Independent*, 15 December 2016.

<sup>39</sup> ['Google tweaks search to root out 'fake news''](#), *USA Today*, 25 April 2017.

<sup>40</sup> W. Knight, ['Biased algorithms are everywhere, and no one seems to care'](#), *MIT Technology Reviews*, 12 July 2017.

<sup>41</sup> ['Holocaust'](#), *Encyclopædia Britannica*, accessed on 29 August 2017.

<sup>42</sup> [Manifestations of anti-Semitism in the European Union](#), synthesis report, Center for Research on Anti-Semitism on behalf of the European Monitoring Centre on Racism and Xenophobia (EUMC), March 2003.

<sup>43</sup> ['History of Encyclopaedias'](#), *Encyclopaedia Britannica*, accessed on 23 November 2017.

containing recent scientific discoveries. The first French (albeit written in Latin) encyclopaedia, Charles Estienne's *Dictionarium historicum, geographicum, poeticum*, was published in 1553.

The printing press revolutionised the spreading of ideas, including in encyclopaedias, which in turn contributed to the accumulation of, reflection on and sharing of knowledge in 'national print-languages'.<sup>44</sup> *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers*, (co-)edited by Denis Diderot and Jean le Rond D'Alembert (1751- 1772) is seen as having played a pivotal role in preparing the French revolution<sup>45</sup> and remains a reference until today. Germany – which had hitherto relied on translations of foreign encyclopaedias – produced its first *Konversationslexikon*-type encyclopaedia in 1704. Often referred to as 'der Hübner' after the scholar who wrote its preface, the *Reales Staats- und Zeitungs-Lexicon* became popular among the growing middle class, which embraced the opportunity to acquire an 'adequate cultural background for polite society'.<sup>46</sup> In Scotland, the first edition of *Encyclopædia Britannica* was published in 1768- 1771. Friedrich Arnold Brockhaus' first *Konversations-Lexikon*, published in 1796- 1811, had a reputation for containing the most recent developments in its accurate, concise and factual articles, and inspired a new wave of Western encyclopaedias.

The market grew rapidly in the 19th century, with encyclopaedias, such as the ones by Pierre Larousse (France), Noah Webster (America) and Joseph Meyer (Germany) entering the scene. In Poland, the *Encyklopedia Powszechna* ('universal encyclopaedia') was published in 1858-1868; Hungary produced its *Egyetemes Magyar Encyclopaedia* ('universal Hungarian encyclopaedia') in 1861-76, and in Russia, the *Spravochny Entsiklopedichesky Slovar* ('encyclopaedic reference dictionary') was published in 1847- 1855, based on the Brockhaus model. The *Nastolny Entsiklopedichesky Slovar* ('desktop encyclopaedic dictionary') from 1891-1903, edited by the brothers Granat, appeared in a new 58-volume edition in 1910-1948, which was not exported from the Soviet Union. Inspired by the *Britannica*, this edition included ideological articles, such as Lenin's contribution on Marx and on the Russian 19th-century agrarian problem. Successive ideological changes in Russian society were later reflected in numerous changes to the Granat dictionary entries.

#### 2.1.1. Encyclopaedias as a cultural commodity

Later, the Soviet state published the *Bolshaya Sovetskaya Entsiklopediya* (great Soviet encyclopaedia, GSE) from 1926 to 1990. Its third edition was translated into English and published by Macmillan between 1973 and 1983.<sup>47</sup> Soviet republics published their own encyclopaedias in their own languages. Examples include the Ukrainian Soviet Encyclopaedia and the Byelorussian Soviet Encyclopedia. Translations and cross-border cooperation enabled established publishers to export their work: German Brockhaus, for example, entered into cooperation with St Petersburg printing house Efron, giving birth to the [Brockhaus and Efron Encyclopaedic Dictionary](#), published in Russian in 1890-1907 with contributions from distinguished Russian academics and scientists.

<sup>44</sup> In the book 'Imagined communities: reflections on the origin and spread of nationalism', Benedict Anderson coined the notion of 'print capitalism'.

<sup>45</sup> According to the 1911 *Encyclopaedia Britannica* (cited by [Wikipedia](#)), 'No encyclopaedia perhaps has been of such political importance, or has occupied so conspicuous a place in the civil and literary history of its century. It sought not only to give information, but to guide opinion'.

<sup>46</sup> [History of Encyclopaedias](#), *Encyclopaedia Britannica*, accessed on 23 November 2017.

<sup>47</sup> [Bolshaya Sovetskaya Entsiklopediya](#), *Encyclopaedia Britannica*, accessed on 7 September 2017.



### 2.1.2. Online encyclopaedias in an era of hybrid warfare: a 'territory of truth'?

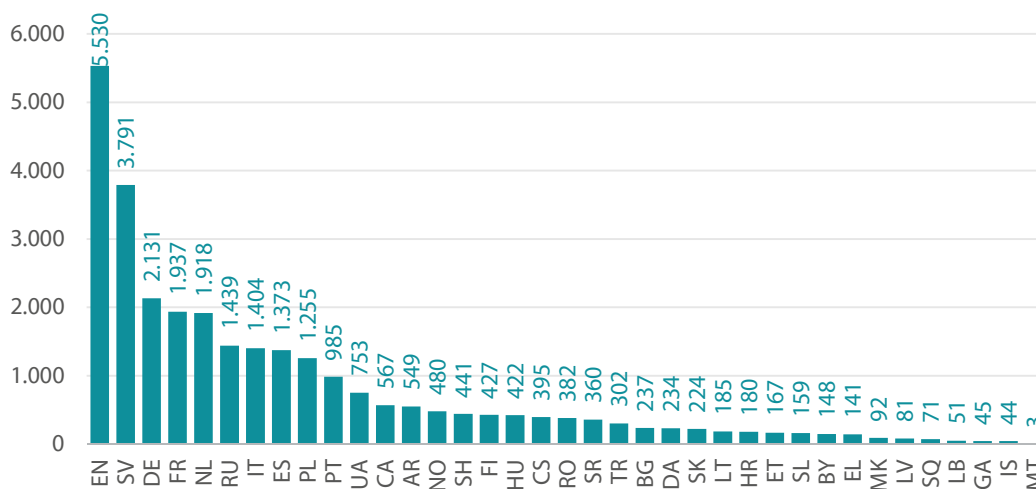
In Russia, the *Great Russian Encyclopedia* (GRE) – the successor of the GSE – was initiated by a [presidential decree](#) in 2002<sup>48</sup> and started being published in 2004. Its 34th volume was published in 2017 and its final, 35th volume, is expected to go out of print in early 2018. The GRE's editor, Sergei Kravets, has called GRE a tool to stabilise Russian minds amid the post-truth era: 'When we began, we lived in the epoch where "truth" was valued. Now we seem to be going through a time of "post-truth"... . We regard our encyclopaedia as the territory of truth and objective assessment. It's where people can go to check their information, and balance their views'.<sup>49</sup>

## 3. Wikipedia

### 3.1. The free encyclopaedia that anyone can edit

Whereas most major encyclopaedias appeared on CD-ROM in the 1990s or early 2000s, Wikipedia was launched in 2001 by Jimmy Wales and Larry Sanger as a free, collaborative online encyclopaedia. As a result, competition on the online market increased and the encyclopaedia landscape changed. Today, Wikipedia has more than 299 language versions, of which 288 are active (as of September 2017). Wikipedia.org is the fifth most popular website in the world, according to website traffic analytics firm Alexa.

**Figure 4 – Number of Wikipedia articles by language spoken in Europe (December 2017, in 1 000)**



Data source: [Wikipedia](#), accessed 13 December 2017.

Abbreviations: EN: English; SV: Swedish; DE: German; NL: Dutch; FR: French; RU: Russian; IT: Italian; ES: Spanish; PL: Polish; PT: Portuguese; UA: Ukrainian; CA: Catalan; AR: Arabic; NO: Norwegian; SH: Serbo-Croatian; FI: Finnish; HU: Hungarian; CS: Czech; RO: Romanian; SR: Serbian; TR: Turkish; BG: Bulgarian; DA: Danish; SK: Slovak; LT: Lithuanian; HR: Croatian; ET: Estonian; SL: Slovenian; BY: Belarusian; EL: Greek; MK: Macedonian; LV: Latvian; SQ: Albanian; LB: Luxembourgish; GA: Gaelic; IS: Icelandic; MT: Maltese.

With some 5.5 million articles, the English-language version of Wikipedia is by far the largest in terms of the number of articles (see Figure 4). In comparison, the Swedish-language version has over 3.7 million articles and the German over 2.1 million. The

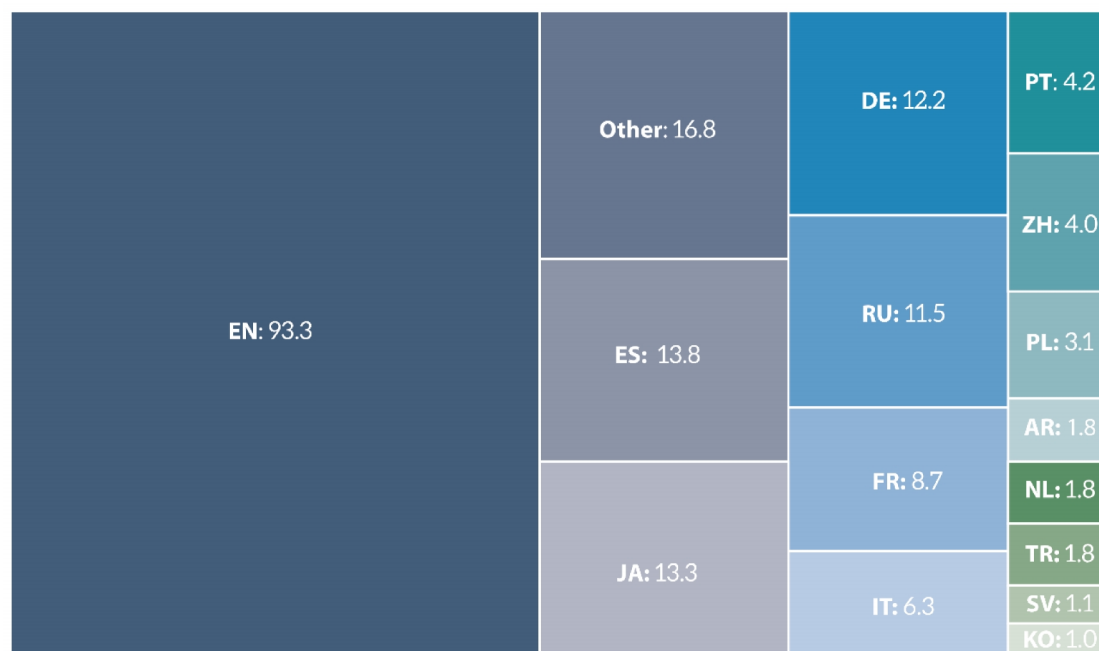
<sup>48</sup> [http://www.greatbook.ru/images/Ukaz\\_prezidenta\\_o\\_bre.png](http://www.greatbook.ru/images/Ukaz_prezidenta_o_bre.png), accessed on 18 December 2017.

<sup>49</sup> 'Russia set to unveil the world's newest print encyclopedia – and its last?', *The Christian Science Monitor*, 23 March 2017.

Ukrainian-language version has 738 070; the Turkish has fewer than 300 000 (for some 63 million speakers). While there are 161 346 articles in Estonian and 78 988 in Latvian, these countries' Russian-speaking populations (29.6 % and 33.8 %, respectively<sup>50</sup>) can access 1 435 661 articles in the Russian-language version of Wikipedia. According to Wikipedia statistics, the website has 32 631 063 registered users (January 2018).

In terms of page views, in 2016 the English-language version of Wikipedia generated more than six times as many page views (93.3 billion page views<sup>51</sup>) as the Japanese one, which is the second-most popular language version (13.3 billion page views) – see Figure 5. Among the most popular pages in the English-language version of Wikipedia (indicating 'what the collective world is thinking about') are articles on politics, celebrities, sports, popular culture and history. In 2016, the article on US president-elect Donald Trump was the most-viewed on Wikipedia, with some 76 million views of the English-language version alone.<sup>52</sup> In 2017, the article on Trump was the second most popular one, having garnered almost 30 million views. The article about 'deaths in 2017' was the most-viewed article in 2017, with over 37 million views. The article on Queen Elizabeth II was the third-most viewed article of 2017.<sup>53</sup>

**Figure 5 – Wikipedia page views by language (2016).**



**Notes:** EN (English), ES (Spanish), JA (Japanese), DE (German), RU (Russian), FR (French), IT (Italian), PT (Portuguese), ZH (Chinese), PL (Polish), AR (Arabic), NL (Dutch), TR (Turkish), SV (Swedish), KO (Korean) and Other (Albanian, Armenian, Azerbaijani, Belarusian, Bulgarian, Croatian, Czech, Danish, Estonian, Finnish, Georgian, Greek, Hungarian, Icelandic, Irish, Latvian, Lithuanian, Luxembourgish, Macedonian, Maltese, Norwegian, Romanian, Serbian, Slovak, Slovenian, Ukrainian and Urdu)

Data source – Wikipedia:

<https://stats.wikimedia.org/wikimedia/squids/SquidReportPageViewsPerLanguageBreakdown.htm#>

<sup>50</sup> CIA World Factbook, accessed on 29 August 2017.

<sup>51</sup> According to Wikipedia's siteview analysis tool <https://tools.wmflabs.org/siteviews/?platform=all-access&source=pageviews&agent=user&start=2016-01-01&end=2017-01-01&sites=en.wikipedia.org>

<sup>52</sup> 'Trump, Prince, and Queen Elizabeth: 2016's most-read Wikipedia articles', Wikipedia, 5 January 2017.

<sup>53</sup> 'The Top 50 Report – 2017', Wikipedia.

### 3.1.1. Ownership

Wikipedia is hosted by the Wikimedia Foundation, a non-profit organisation 'dedicated to encouraging the growth, development and distribution of free, multilingual, educational content, and to providing the full content of these wiki-based projects to the public free of charge'. In addition to operating Wikipedia, the Wikimedia Foundation is also behind a number of other collaboratively edited projects, including the free dictionary Wiktionary and the free library Wikisource.

### 3.1.2. Fundamental principles

Wikipedia states that unlike traditional encyclopaedias, it follows the '[procrastination principle](#)' (according to which one should wait for problems to arise before solving them) regarding the security of its content. Wikipedia explains that its initial policy was almost entire openness, meaning that anyone could create articles and any Wikipedia article could be edited by any reader, even those who did not have a Wikipedia account. Modifications to all articles would be published immediately. As a result, any article could contain inaccuracies such as errors, ideological biases, and nonsensical or irrelevant text. However, over time, increasingly popular editions, such as the English-language version, have introduced editing restrictions. Now, only registered users may create a new article, and some controversial, sensitive or 'vandalism-prone' pages have been protected. Wikipedia's fundamental principles are summarised in five pillars:

- Wikipedia is an encyclopaedia, combining many features of general and specialised encyclopaedias and almanacs.
- Wikipedia is written from a neutral point of view, striving for articles that document and explain major points of view in an impartial tone avoiding advocacy.
- All editors freely license their work to the public. Copyright laws are respected.
- Wikipedia's editors should treat each other with respect and civility.
- Wikipedia has no firm rules; its policies and guidelines can evolve over time.

### 3.1.3. Wikipedia's reliability

In terms of reliability, Wikipedia, which is a collaborative encyclopaedia, is typically compared with *Encyclopaedia Britannica*, a general knowledge English-language encyclopaedia that is compiled, checked and updated by experts. Whereas some studies suggest that Wikipedia articles on certain topics are comparable to or even more accurate than expert-authored textbooks,<sup>54</sup> other studies show that the quality of articles, particularly on politically controversial topics, can fluctuate significantly and is 'vulnerable to vandalism and other shenanigans'.<sup>55</sup> A 2015 study by Zhu and Greenstein compared 4 000 articles that appeared in both the crowd-based Wikipedia (English-language version) and the expert-authored *Encyclopaedia Britannica* and compared certain code words to determine the level and direction of bias. Acknowledging that their findings did not determine the level of correctness, the authors concluded overall that Wikipedia articles were more biased, with Wikipedia leaning more towards Democratic (as opposed to Republican) views than did *Encyclopaedia Britannica*.<sup>56</sup> The study also

<sup>54</sup> J. Kräenbring et. al., '[Accuracy and Completeness of Drug Information in Wikipedia: A Comparison with Standard Textbooks of Pharmacology](#)', *PLOS ONE*, September 2014.

<sup>55</sup> A. Wilson and G. Likens, '[Content Volatility of Scientific Topics in Wikipedia: A Cautionary Tale](#)', *PLOS ONE*, August 2015.

<sup>56</sup> S. Greenstein and F. Zhu, '[Do experts or crowd-based models produce more bias?](#) Evidence from *Encyclopædia Britannica* and Wikipedia', to be published in *MIS Quarterly*.



found that a high number of revisions of Wikipedia articles resulted in a more neutral point of view, reducing slant and bias to 'negligible differences' when compared to an expert-based model.

#### 3.1.4. *Vandalism on Wikipedia*

Wikipedia defines [vandalism on Wikipedia](#) as 'the act of editing the project in a malicious manner that is intentionally disruptive'.<sup>57</sup> Wikipedia says that throughout its history, it has 'struggled to maintain a balance between allowing the freedom of open editing and protecting the truth and accuracy of its information when false information can be potentially damaging to its subjects. Vandalism – personally or ideologically motivated – is easy to commit on Wikipedia because anyone can edit the site, with the exception of articles that are currently semi-protected, which means that new and unregistered users cannot edit them'.<sup>58</sup>

#### 3.1.5. *Wikipedia's current crisis – is the concept of knowledge endangered?*

An October 2017 op-ed in *Wired*, a monthly US magazine focusing on technological and cultural developments, warned that Wikipedia (described as 'one of the last remaining pillars of the open and decentralized web'), is in existential crisis, despite a recent increase in funds sparked by concerns that Trump's rise could erode the US enlightenment ideals.<sup>59</sup> According to the author, Wikipedia's decline (signified by a stagnating number of contributors) shows a more general trend towards a 'much larger civilizational shift', involving a decrease in the status of knowledge on the web.

### 3.2. Wikipedia as an information battlefield

#### 3.2.1. *The crisis in Ukraine and MH17*

In 2014, the crisis in Ukraine resulted in a political battle on Wikipedia over the crash of Malaysian Airlines flight MH17, a passenger flight from Amsterdam to Kuala Lumpur, which was shot down over eastern Ukraine on 17 July 2014, killing all 283 passengers and 15 crew. It appeared that a user from within the All-Russia State Television and Radio Broadcasting Company (VGTRK) changed a Russian-language version of a page on civil aviation accidents, saying that 'The plane [flight MH17] was shot down by Ukrainian soldiers'. This sentence replaced text written just an hour earlier, claiming that MH17 had been shot down 'by terrorists of the self-proclaimed Donetsk People's Republic with Buk system missiles, which the terrorists received from the Russian Federation'.<sup>60</sup> Whereas Wikipedia keeps an eye on edits traced to IP addresses from Russian government buildings,<sup>61</sup> some ordinary Russian citizens who sympathise with the

<sup>57</sup> This includes adding, removing or otherwise modifying text of material in a way that is either humorous, nonsensical, a hoax, or offensive, humiliating, or otherwise degrading.

<sup>58</sup> Wikipedia's main example of a notable act of vandalism is the so-called [Seigenthaler incident](#): In May 2005, a user edited the biographical article about John Seigenthaler, Sr., including in it a number of false and defamatory statements. The inaccurate claims went unnoticed between May and September 2005, when they were discovered by a friend of Seigenthaler's. Seigenthaler's son discovered that his father's hoax biography also appeared on sites that took direct feeds from Wikipedia. The vandalised articles remained for weeks on the mirror sites downstream. Wikipedia explains that mirrored content can develop a misleading air of authority, due to its presence on the mentioned sites.

<sup>59</sup> H. Derakhshan, '[How social media endangers knowledge](#)', *Wired*, 19 October 2017.

<sup>60</sup> 'Russian government edits Wikipedia on flight MH17', *The Daily Telegraph*, 18 July 2014.

<sup>61</sup> '[Why won't Wikipedia ban propaganda on its Russian site?](#)' *New Republic*, 1 August 2014.

Kremlin and are critical of Western sanctions are also likely amplifying pro-Kremlin and anti-West messages.

### 3.2.2. Turkey's Wikipedia ban

On 29 April 2017, Turkish authorities blocked online access to Wikipedia in all languages, citing a law that enables bans on access to websites considered a threat to national security.<sup>62</sup> The move (which was in line with President Recep Tayyip Erdogan's crackdowns on media since the 2016 failed coup attempt in the country<sup>63</sup>) came after Wikipedia refused to remove references to Turkey's ties to Syrian militants, despite requests by the Turkish Information and Communication Technologies Authority.<sup>64</sup> Turkish state-run Anadolu [news] Agency cited a statement by Turkey's Communications Ministry, accusing Wikipedia of involvement in 'a smear campaign against Turkey in the international arena'.<sup>65</sup> Some teachers and students in Turkey have expressed concern about the lack of information and the potential impact on critical thinking and innovation in the country.<sup>66</sup>

### 3.2.3. China to rival Wikipedia with a 'Great Wall of culture'

In May 2017, Chinese officials announced that more than 20 000 people had been hired to work on an online version of the country's first national encyclopaedia, the Encyclopaedia of China, which was first published in 1993. A second edition was launched in 2012. The online version will be launched in 2018 to compete with Wikipedia<sup>67</sup> and Chinese online encyclopaedias published by the companies Baidu and Qihu 360. The government-funded online encyclopaedia will be created by selected scholars from state-run universities; unlike Wikipedia, it would not be open to contributions or editing from volunteers. According to Yang Muzhi, the editor-in-chief of the project, the Encyclopaedia of China is 'not a book, but a Great Wall of culture'.<sup>68</sup>

### 3.2.4. Russia's alternative to Wikipedia to portray Russia 'objectively and accurately'

In 2014, Russia's Presidential Library announced plans for an alternative version of Wikipedia, aiming to provide better information about Russia than (the Russian-language) Wikipedia. The statement refers to analysis allegedly showing that Wikipedia lacks 'detailed and reliable information about Russian regions and the life of the country', which the new online encyclopaedia would include in order to portray Russia 'objectively and accurately'. According to the statement, the online encyclopaedia is expected to become 'one of the most popular resources' on Russian internet.<sup>69</sup>

<sup>62</sup> See '[2017 block of Wikipedia in Turkey](#)', Wikipedia article; and '[Turkey blocks Wikipedia under law designed to protect national security](#)', *The Guardian*, 30 April 2017.

<sup>63</sup> P. Perchoc, [Media freedom trends 2017: Turkey](#), EPRS, European Parliament, May 2017.

<sup>64</sup> '[2017 block of Wikipedia in Turkey](#)', Wikipedia, accessed on 29 August 2017.

<sup>65</sup> '[Turkey: Wikipedia blocked for disregarding the law](#)', Anadolu Agency, 29 April 2017.

<sup>66</sup> Since the coup attempt, some 150 media outlets have been closed down by a decree. Over 100 000 websites are currently blocked in Turkey, according to human rights and media freedom watchdog Freedom House.

<sup>67</sup> Chinese users are able to access some Wikipedia content, but searches for sensitive topics such as the Dalai Lama and President Xi Jinping are blocked, according to the BBC.

<sup>68</sup> '[China to launch Wikipedia rival in 2018](#)', BBC News, 2 May 2017.

<sup>69</sup> [Boris Yeltsin Presidential Library](#), 14 November 2014.

## 4. The 'alternative' right-wing extremist encyclopaedia

Wikipedia not only produces and publishes knowledge; it also makes its software MediaWiki publicly available, free of charge. This explains why Metapedia – a right-wing extremist encyclopaedia – uses the same layout and thus, to the untrained eye, looks very similar to Wikipedia.

Metapedia portrays itself as an 'alternative' encyclopaedia. It was founded in 2006 by Swedish neo-Nazi, Anders Lagerström, and is owned by Sweden-based NFSE Media AB. Metapedia provides content which is openly racist, often promoting conspiracy theories and Holocaust-denying statements. As already mentioned, Metapedia uses Wikipedia's free and open software MediaWiki and works according to the same collaborative principles. Metapedia states that it has a 'metapolitical purpose, to influence the mainstream debate, culture and historical view'. In its mission statement, it explains that the 'possibility to influence the language is vital if you want to shape people's world view'.<sup>70</sup> Another key purpose, according to the mission statement, is to 'become a web resource for pro-European activists. Metapedia makes it easy for our cadres to expand their knowledge on various important subjects, and also functions as a searchable reference'.

The content guidelines explain that suitable topics for Metapedia include:

- 'Mass media: Foreign control, anti-white bias, left wing orientation';
- 'Physical anthropology and genetics – IQ-studies, eugenics, racial differences and such';
- 'Traditionalism, ariosophy,<sup>71</sup> European and Indo-European traditions etc'.

Metapedia is available in Swedish, Danish (both launched in 2006), Czech, English, French German, Hungarian, Portuguese, Russian, Slovak, Spanish (launched in 2007), Romanian (2008), Estonian, Norwegian (both launched in 2009) and Dutch (2011). The Hungarian-language version currently has the highest number of articles: 147 648 as of 27 November 2017.

According to Alexa.com, Metapedia.org ranks 43 722nd globally (27 November 2017). With 32 % of the traffic share, the German-language version appears to be the most popular, followed by the Spanish- and the English-language versions.<sup>72</sup>

## 5. European online encyclopaedias

As already noted, the current information sphere – where users have to navigate seemingly endless amounts of information every day – is increasing the need for direct access to reliable, trustworthy sources that provide background information to those who need and/or want to check the facts. This is even more important in an age when people's trust in the authorities and mainstream media is at an all-time low, and where

<sup>70</sup> [Metapedia content guidelines](#), accessed on 27 November 2017.

<sup>71</sup> According to [Encyclopaedia Britannica](#), 'Believers in Aryanism came to regard the Nordic and Germanic peoples as the purest members of the "race." That notion ... was seized upon by Adolf Hitler and the Nazis and was made the basis of the German government policy of exterminating Jews, Roma (Gypsies), and other "non-Aryans"'. According to US author Daniel Goldhagen, Metapedia seeks to create 'an anti-Semitic informational universe' ([CNN](#), 18 October 2013).

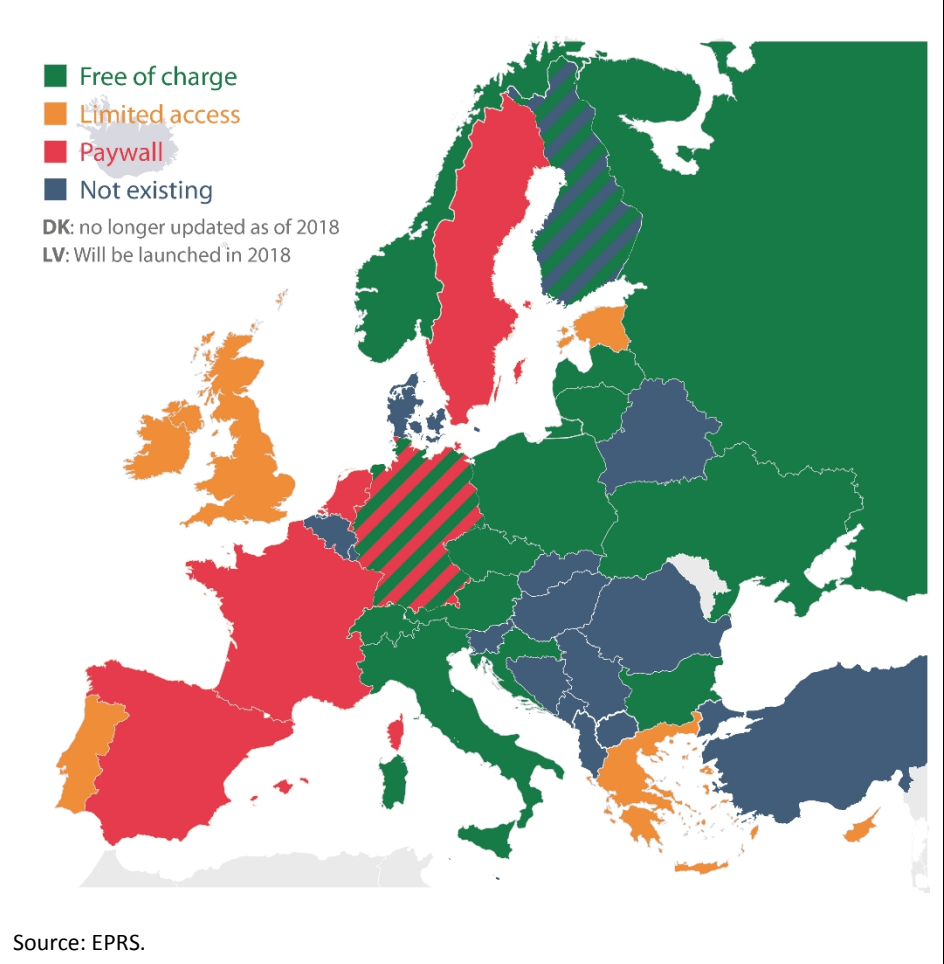
<sup>72</sup> [Similarweb.com](#), accessed on 9 January 2018.

some actors are deliberately peddling manipulated information to further erode this trust.

As already mentioned, access to general-interest knowledge largely depends on the user's mother tongue. To give an idea about the level of this access across the EU and other European countries, this section provides information about their online encyclopaedias, including the number of Wikipedia articles in the relevant language.

The language versions of Wikipedia as the world's leading online encyclopaedia differ significantly in terms of the number of available articles. A limited number of articles typically coincides with a low number of contributors/editors, which also increases the risk of bias. At the same time, users in small language communities that are weakly represented on Wikipedia turn to the English-language version. This is the case in EU Member States Croatia, Estonia, Denmark, Greece, Latvia, Slovenia and Romania. Outside the EU, the same is true for

**Figure 6 – Online encyclopaedias in Europe, 2018**



Albania, Bosnia-Herzegovina and Serbia. In Belarus and Ukraine, the Russian-language version of Wikipedia is more popular than the Ukrainian-language version. This creates a gap between well-educated users with good English skills and those who are not able to hold a conversation in another language than their mother tongue (46 % in the EU, as mentioned above).

With regard to the presence or absence of a national online encyclopaedia, European countries in and beyond the EU can be divided into four different groups (see Figure 6):

- **Countries/language communities with no national online encyclopaedia:** EU Member States Belgium (where users turn to French-, Dutch- or German-language sources); Finland (where only the Swedish-speaking minority has access to an online encyclopaedia); Malta; Ireland (where users turn to English-language sources); Portugal; Slovakia; Slovenia and Romania. The Danish national online encyclopaedia is not updated anymore, as it is not economically viable for the publisher. In addition, Turkey, Serbia, Montenegro and Bosnia-Herzegovina have no national online encyclopaedias. In Belarus, an encyclopaedia from the 1990s has been put online, but the content is not updated. Furthermore, the national

languages of this group of countries are often very weakly represented on Wikipedia.

- **Countries/language communities with limited access to a (typically commercial) national online encyclopaedia:** Estonia, the United Kingdom, Greece and Portugal. Whereas English speakers have access to the largest version of Wikipedia in terms of the number of articles, this is not the case for smaller language communities such as the Estonian one.
- **Countries whose (commercial) online national encyclopaedia has installed a paywall:** France, Germany (Brockhaus), the Netherlands and Sweden.
- **Countries with free access to an online national encyclopaedia:** Austria; Bulgaria; the Czech Republic; Croatia; Italy; Latvia (which will launch an all-new national encyclopaedia in November 2018); Lithuania; Russia and Ukraine.

## 6. European encyclopaedias: an untapped potential?

Arguably, Europe has a rich, diverse multilingual encyclopaedia landscape, drawing on centuries of academic research and the quest for rationality and enlightenment.<sup>73</sup> The potential to share experiences and information internally as well as to export this knowledge to various regions in the world – empowering people both in and beyond Europe to participate in democratic processes – exists and could be explored further.<sup>74</sup>

Focusing on the internal EU dimension, the European Commission's November 2017 communication on ['Strengthening European identity through education and culture'](#) recognises that Europe is facing 'new patterns in communication, social media, the phenomenon of "fake" news and the need to promote media literacy among all citizens' as well as 'a flaring-up of populism and xenophobia, the risk of violent radicalisation and the need to strengthen the sense of belonging together'.

Boosting access to reliable general-interest knowledge in the EU could contribute to addressing these challenges, not least as the Commission also underlines that 'understanding and preserving our cultural heritage and diversity are pre-requisites to maintain our cultural community, our common values and identity'. The Commission highlights the 2018 European Year of Cultural Heritage as 'an opportunity to increase awareness of the importance of culture and cultural heritage and, in particular, to recall that cultural heritage belongs to all'.

Sharing European knowledge with third countries would be in line with the June 2016 Joint Communication ['Towards an EU strategy for international cultural relations'](#), which focuses on three main strands to contribute to making the EU a stronger global actor, including reinforcing cooperation on cultural heritage. In July 2017, the European Parliament highlighted the important role of culture in EU external policy as a soft power in its [resolution](#) 'Towards an EU strategy for international cultural relations'.

In the current participatory culture, social media users have grown accustomed to not only sharing and liking, but also to actively and proactively providing content. In this environment, online encyclopaedias have the potential to serve as knowledge-sharing

<sup>73</sup> ['How social media endangers knowledge'](#), *Wired*, 19 October 2017.

<sup>74</sup> In addition to existing initiatives projects such as [Europeana](#), which is an EU digital cultural heritage platform providing access to over 51 million artworks, artefacts, books, video and sounds from across Europe.

platforms which people can consult and potentially also contribute to; inclusive, cross-border knowledge and language communities that unite rather than divide.

The European encyclopaedia landscape is diverse, and the approaches to encyclopaedias differ. For instance, some are published in cooperation with universities. Some of the commercial encyclopaedia business models are based on partnerships with the respective country's Ministry of Education, while others rely directly on state funding. Norway's national encyclopaedia appears to have struck a balance between including citizens by engaging the public to co-create content, while at the same time using the expertise of the academic community to clarify and correct potential errors and/or misunderstandings.

Europe's linguistic diversity provides fertile ground to produce, share and export knowledge across borders, and to thereby address potential knowledge gaps not only in the EU but also in neighbouring countries. European online encyclopaedias have the potential to enable people to engage, participate and contribute to collective knowledge. Through the languages spoken in the EU, this knowledge would potentially also be accessible to the public in third countries. In this sense, Europe's online encyclopaedias could contribute to exporting and thus promoting reliable, factual knowledge about history, democracy and fundamental values.



## 7. Annex: EU Member States' online encyclopaedias

### 7.1. Belgium

As Belgium has no national general online encyclopaedia, its citizens use French, Dutch or German online encyclopaedias.

### 7.2. Bulgaria

In 2005, the general educational internet portal [www.znam.bg](http://www.znam.bg) ('I know') was launched, being the result of a joint effort by publishing house Trud and software company Sirma Media. Its content is based on the Българска Енциклопедия А-Я ('Bulgarian Universal Encyclopaedia A-Z'), published in 1999 and updated in 2002 and in 2005.<sup>75</sup> Initially, it served as a Bulgarian-language source of encyclopaedic multimedia knowledge for use in primary and secondary education. Progressively, it became a major source of encyclopaedic knowledge for the general public and a credible source of information for other specialised sources of knowledge. The portal contains a gallery of guides, encyclopaedias and dictionaries; a library of works by Bulgarian and world-renowned authors; interactive geographic maps, images, audio and video fragments; and articles on general or specific themes from different fields of science and knowledge. The content is systematised in several hundred categories and subcategories. Experts from institutions such as the Bulgarian Academy of Sciences and the University of Sofia have co-authored the content published on the portal.

The portal contains some 100 000 entries (articles, interactive geographic maps, images, audio and video fragments) which are accessible free of charge.

Alexa.com ranks [Znam.bg](http://Znam.bg) 1 027th in Bulgaria (9 January 2018).

Wikipedia contains 234 504 Bulgarian-language articles (November 2017).

### 7.3. Czech Republic

The general-interest online encyclopaedia [Encyklopedie CoJeCo](http://Encyklopedie.CoJeCo) has been running since 2000 and is managed by OPTIMUS s.r.o. Initially open to contributions from the public, subject to verification by specialists, contributions are now limited to paid contractual authors. CoJeCo has 100 000 entries and more than 6 500 images or sound files free of charge. No log-in is needed.

Alexa.com ranks [Cojeco.cz](http://Cojeco.cz) 10 208th in the Czech Republic (9 January 2018).

[Encyklopedie Vševěd](http://Encyklopedie.Vševěd) ('"Know-It-All" Encyclopaedia'), a general-interest online encyclopaedia launched in 2000 and published by Netpoint, offers an unknown number of articles free of charge. No log-in is needed. There is no available information on its popularity and ranking.

The Czech encyclopaedic project COTOJE combined information from the (national No. 1 source) Ottův Slovník Naučný, the Malá Česká Encyklopedie, the Ottova Encyklopedie and the Encyklopedie Universum. Access was free for the first 25 entries, then paid (the cheapest option was 50 full entries for three months, for a price of 200 Kc/€80). The [project ended](#) in January 2013.

Wikipedia contains 390 075 Czech-language articles (November 2017).

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<sup>75</sup> The last version contained 32 000 articles. There was an electronic version on CD and DVD, which was available for free to schools.

## 7.4. Denmark

Launched in 2007, Den Store Danske ([DSD](#)) is the online version of Den Store Danske Encyklopædi ('Great Danish Encyclopaedia'), a printed encyclopaedia in 20 volumes published between 1994 and 2001 (with a supplement volume published in 2002) by publishing house Gyldendal. In August 2017, Gyldendal announced it [would discontinue the online encyclopaedia](#), arguing that the project was not economically viable. The future of the DSD is unclear; at the time of writing, Gyldendal was still engaged in talks with the Ministry of Culture.<sup>76</sup> Whereas the existing content will likely continue to be accessible online, the articles will not be updated anymore. Over the years, Gyldendal as well as the charitable organisation Augustinus Fonden had invested at least 40 million kroner (€5 million) in the online encyclopaedia, testing different business models, such as user fees from educational institutions and investment in advertising revenue.

Erik Bolstad, chief editor of Norway's national encyclopaedia Store Norske Leksikon (see below), argued in an August 2017 [interview](#) in Danish daily Politiken that encyclopaedias in small languages such as Swedish, Danish and Norwegian cannot expect to be able to survive by using the paywall model, which is the economic foundation of *Encyclopaedia Britannica*, for example (see under UK below).

Content: general interest. Number of articles: over 161 000 (when launched in 2009). Alexa.com ranks Denstoredanske.dk 106th in Denmark (9 January 2018).

Wikipedia contains 231 594 articles (November 2017) in Danish. Attracting 50.4 % of Wikipedia users in Denmark, the English-language version of Wikipedia has overtaken the Danish one (40.9 %).<sup>77</sup>

## 7.5. Germany

Based on its printed reference work, Brockhaus launched its first digital encyclopaedia, Brockhaus.de, in 2002. In 2008, the company was sold to the Bertelsmann Group and then taken over by the Swedish NE Nationalencyklopedin AB in 2015. Brockhaus online was initially free of charge, but currently access to it is only possible through institutions and companies. Subscriptions start at €250 a year. Brockhaus has created a mobile learning app and an app for children.

According to Alexa.com, Brockhaus.de is ranked 56 702nd in Germany (10 January 2018).

'The big knowledge platform', wissen.de, is a free online encyclopaedia published by Konradin Medien GmbH. Its contents are compiled from several sources, including licensed reference works such as the Wahrig. Wissen.de was nominated '[website of the year 2012](#)' after having been qualified as the 'best' and 'most popular' website in the education category by the general public.

Alexa.com ranks wissen.de 1 999th in Germany (10 January 2018).

Wikipedia contains 2 103 840 German-language articles (November 2017).

## 7.6. Estonia

The TEA e-Entsüklopeedia ([ents.ee](#)) is a comprehensive compendium of general-knowledge and Estonia-related information. Launched in 2008, the encyclopaedia

<sup>76</sup> Telephone conversation, 22 November 2017.

<sup>77</sup> <https://stats.wikimedia.org/wikimedia/squids/SquidReportPageViewsPerCountryBreakdown.htm>, 6 December 2017.



contains 60 000 extensive hyperlinked, regularly updated articles; 100 000 illustrations, maps and multimedia items.

TEA e-Entsüklopeedia is a commercial project, run by [TEA publishers](#). The content is authored by prominent Estonian authors, universities, cultural and academic experts, and, through a dedicated partnership, also by publishers WSOY and Timehouse in Finland, *Encyclopaedia Britannica* and many others.

The encyclopaedia's content is a general-interest one. Log-in is needed; access to the articles is only partially free. Subscription is flexible (for 365, 30, seven or one days) and there is a mobile app. There is no available information about the website's traffic or ranking.

The [Eesti Entsüklopeedia](#) ('Estonian Encyclopedia') was launched in 2010. It contains more than 60 000 illustrations and 90 000 articles. Created under the non-commercial project 'Digitisation of historic and illustrated encyclopedic resources', which was financed by the European Social Fund from September 2010 to March 2012, Eesti Entsüklopeedia contains records/articles from the printed Eesti Entsüklopeediast (EE, a national printed encyclopaedia published from 1985 to 2007), Väikesest Entsüklopeediast (printed encyclopaedia published between 1963 and 1978), Väike Entsüklopeedia (printed encyclopaedia published between 1937 and 1939), ENEKE (an encyclopaedia for students, published between 1982 and 1986), Estonian biographical lexicons as well as other publications by Entsüklopeediakirjastus (1991-2011). This project has a general educational purpose, targets various groups and provides free access to the encyclopaedia. However, it appears that the articles are not updated anymore.

With some 552 unique daily visitors,<sup>78</sup> ents.ee is ranked 2 780th in Estonia.<sup>79</sup>

Wikipedia contains 161 346 Estonian-language articles (November 2017). Wikipedia's English version attracts 42.4 % of Estonian users, while its Estonian-language version attracts 37.7 %.<sup>80</sup>

## 7.7. Ireland

There is no Irish online encyclopaedia. Irish public libraries (e.g. the Dublin City Library) generally provide online access to the *Encyclopaedia Britannica* and to the [Dictionary of Irish Biography](#) published by Cambridge University Press.

Wikipedia contains 44 032 Irish-language articles. The English-language version of Wikipedia is the biggest in terms of the number of articles; 5 517 389 as of November 2017.

## 7.8. Greece

The online Επιστήμη και Ζωή ('Encyclopaedia of Science and Life', [gnosinet.gr](#)) was launched in 2007, based on the print edition, first published in 1981.

Users can contribute entries; these are assessed and then accepted or rejected by academics and established scientists. Gnosinet.gr is a commercial project published by Multimedia Science and Life. The encyclopaedia – approved by the Ministry of Education

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<sup>78</sup> <http://entsyklopeedia.ee.hypestat.com>, 27 November 2017.

<sup>79</sup> <https://www.alexa.com/siteinfo/entsyklopeedia.ee>, 27 November 2017.

<sup>80</sup> <https://stats.wikimedia.org/wikimedia/squids/SquidReportPageViewsPerCountryBreakdown.htm>, 6 December 2017.

as suitable for school libraries – has 32 000 entries, including 11 218 images as well as maps, tables and figures.

When creating an account, the user gains free access to 6 000 entries. To unblock all articles, payment is required on the basis of a 'money for points system' (starting at €36 for 1 000 points for six months). Points are deducted from the user's account on the basis of usage. Institutional subscriptions are available. Multimedia items are free, except for images.

There is no available information on the ranking of/the number of visitors to Gnosinet.gr. According to the editor-in-chief of the website, gnosinet.gr is not economically viable and will be discontinued if no funding is found.<sup>81</sup>

There are no data available on the popularity and the national ranking of gnosinet.gr.

Wikipedia contains 136 883 Greek-language articles (November 2017). The English-language version of Wikipedia attracts 51.3 % of Wikipedia users in Greece and is thus more widely used than the Greek-language version (39.2 %).<sup>82</sup>

## 7.9. Spain

The online version of Gran Enciclopedia de España, [granenciclopedia.es](http://granenciclopedia.es), is based on the 22-volume printed edition. The encyclopaedia is devoted to topics related to Spain and includes sections on literature and languages, fine arts, thought and religion, social sciences, natural sciences, applied sciences, history and politics, geography and society. The encyclopaedia also covers Latin America and its historical and cultural ties with Spain.

The online encyclopaedia contains over 135 000 entries and more than 16 000 illustrations. Subscription is needed; the commercial publisher offers corporate subscriptions and premium subscriptions for libraries. While the date when the online version was launched is not mentioned on the website, the bibliographic record of the OCLC WorldCat mentions the year 2008.

Website content is authored by specialists in the field working for the Spanish universities, the scientific, ecclesiastical and cultural institutions, royal academies or administrative bodies. Their work is supervised by an editorial board.

Information on the encyclopaedia's ranking and unique visitors was not available at the time of writing.

With 1 355 553 articles, the Spanish-language version of Wikipedia is the ninth-largest in terms of the number of articles (November 2017).

## 7.10. France

The online French [Encyclopaedia Universalis](http://Encyclopaedia Universalis) is based on the printed edition which dates back to 1968. Dedicated to documentary research, general culture and teaching, the Encyclopædia Universalis is – in its [own words](#) – the most important French-language general encyclopaedia and one of the most renowned in the world, equivalent to the famous Encyclopædia Britannica. The printed version was discontinued in 2012. Published by the privately owned *Encyclopaedia Britannica*, Encyclopaedia Universalis

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<sup>81</sup> Telephone conversation, 11 December 2017.

<sup>82</sup> <https://stats.wikimedia.org/wikimedia/squids/SquidReportPageViewsPerCountryBreakdown.htm>, 6 December 2017.

has suffered economic difficulties, sparked at least in part by the competition from Wikipedia,<sup>83</sup> and was placed in insolvency proceedings in 2014.

Written by some 7 400 specialist authors and edited by professionals, Encyclopaedia Universalis [targets](#) teachers, students, professionals (libraries, businesses) and individuals.

The online Encyclopaedia Universalis is privately owned by Britannica and has a partnership with the French Ministry of Education. Its number of articles is not mentioned. It contains 30 000 media files (photographs, maps, audio, videos and animated graphics). Paid subscription from €80 for two years; a limited number of articles are free for a limited time. There is no information available about the national ranking or the number of daily unique users of the encyclopaedia.

Wikipedia contains 1 912 247 articles in French (November 2017).

### 7.11. Croatia

The online edition of the Hrvatska enciklopedija ('Croatian Encyclopaedia', [www.enciklopedija.hr](http://www.enciklopedija.hr)), is based on a print edition published in 11 volumes from 1999 to 2009, authored by over 1 000 experts. Following the discontinuation of the print edition in 2009, the online edition was prepared and launched in 2013. Published by the Miroslav Krleža Institute of Lexicography, a commercial publisher, it is a general encyclopaedia with a focus on Croatia. Its 67 077 articles are available free of charge.

Alexa.com ranks Enciklopedija.hr 439th in Croatia (9 January 2018).

Another online encyclopaedia, [Proleksis enciklopedija](http://proleksis.lzmk.hr) ([proleksis.lzmk.hr](http://proleksis.lzmk.hr)), appeared in 2009 on the basis of the Opća i nacionalna enciklopedija u 20 knjiga ('General and National Encyclopaedia in 20 Volumes'), published between 2005 and 2007. It contains some 60 000 entries and is accessible free of charge. Prolexis is a general encyclopaedia with a focus on Croatia. It is editorially supervised but is also open to external cooperation.

Alexa.com ranks Proleksis.lzmk.hr 1 549th in Croatia (9 January 2018).

Wikipedia contains 177 838 Croatian-language articles (November 2017). The English-language version of Wikipedia attracts 50 % of Wikipedia users in Croatia, whereas the Croatian-language version attracts 32.9 %.<sup>84</sup>

### 7.12. Italy

[Treccani.it](http://Treccani.it) is Italy's leading general online encyclopaedia, based on the Enciclopedia italiana di scienze, lettere, ed arti (also known as Enciclopedia Italiana or 'Treccani', after the name of the founder of the Istituto dell'Enciclopedia Italiana), which published its first 35 volumes between 1929 and 1939 and continues to be updated. All of the works published by the Treccani Institute have been gradually published online since 2011. Currently, more than a million entries are accessible free of charge.

The Treccani Institute owns, manages and edits the online encyclopaedia's content. This private and independent institute works in the 'national interest', and its mission is to

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<sup>83</sup> [L'Encyclopaedia Universalis d'pose le bilan, plombée par Wikipédia](#), Clubic, 25 November 2014.

<sup>84</sup> <https://stats.wikimedia.org/wikimedia/squids/SquidReportPageViewsPerCountryBreakdown.htm>, 6 December 2017.

compile, update and publish the encyclopaedia. Its president is named by the president of the republic, although the post is not a government one.

The scientific board advises on the quality and accuracy of the content. The articles are edited and updated by internal editors specialised by subject areas. Users cannot contribute.

Treccani is ranked 187th in Italy by Alexa.com (10 January 2018). It has approximately 143 000 followers on Twitter, over 300 000 Facebook fans and about a million app and e-book downloads.

With 1 384 488 Italian-language articles, the Italian-language version of Wikipedia is the eighth largest in terms of articles (November 2017).

### 7.13. Cyprus

Please see Greece, above.

### 7.14. Latvia

Latvia's Nacionālā Enciklopēdija ('National Encyclopedia') is set to be released both online and in book form (if funds allow; one volume, entirely on Latvia, will focus on post-1991 issues) in late 2018 for Latvia's centenary. Work on the project, aiming to consolidate knowledge about Latvia, started in 2014. The creation of the encyclopaedia is supervised by the National Encyclopedia Council, consisting of rectors of major Latvian universities and museum directors, and headed by the Minister of Culture, Dace Melbārde. Last time such a universal encyclopaedia was created was in the 1980ies, when Latvia was still part of the Soviet Union.

This is a universal encyclopaedia with a balanced focus on both universal knowledge and Latvia-related topics. It will be free of charge and will not require registration. The editorial office of the National Encyclopedia is an autonomous part of the [National Library of Latvia](#). Two editorial boards include 55 sectoral specialists and 16 illustrating specialists, headed by National Library of Latvia Director, Andris Vilks. No contributions from users are foreseen; the content is created by the professionals and access to editing the articles online is available only to the members of the editorial office. The encyclopaedia receives approximately €200 000 in annual financial support from Latvia's Ministry of Culture.

Valters Ščerbinskis, who heads the editorial team of seven members, explains that the encyclopaedia aims to be transparent, understandable, logical and to earn the approval of the academic community. He argues that in the 21st century, only state institutions can afford to and should support encyclopaedias financially, because the latter do not yield a profit. Creating and maintaining an encyclopaedia is a long-term process, which also has a long-term impact on society. Last but not least, he argues that state support helps avoid unnecessary conflicts of interest. Both ethnic Latvian and ethnic Russian experts are involved in the on-going work.<sup>85</sup>

Wikipedia contains 78 988 Latvian-language articles (November 2017). Both the English-language version (38.1 %) and the Russian-language version (32.6 %) of Wikipedia attract more users than the [Latvian one](#) (25 %).

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<sup>85</sup> Email from Valters Ščerbinskis to the author of this document, 24 November 2017.

## 7.15. Lithuania

The Visuotinė Lietuvių Enciklopedija, VLE ('[Universal Lithuanian Encyclopedia](#)') is a 25-volume universal Lithuanian-language encyclopaedia that was published by the Science and Encyclopedia Publishing Center (SEPC) from 2001 to 2014. The VLE is the first published universal encyclopaedia in independent Lithuania (it replaces the former Lithuanian Soviet Encyclopaedia which was published in 13 volumes in 1976-1985). In 2017, all VLE content was made available online. It will be updated and complemented regularly with new articles and illustrations, linked to the new external sources of information and digitised scientific encyclopaedias published by SEPC.

The VLE is a scientific informational publication about the world and Lithuania, the universe and the Earth, the history of the world and human civilization, culture, science, economics, world religions, humanistic and Christian values.

The VLE online contains some 100 000 freely accessible articles. It is published by the Science and Encyclopedia Publishing Centre with the support of the Ministry of Education and Science. Currently, only experts and scientists can contribute. At a later stage, contributions from users/the general public might be accepted, but every article will be assessed by the scientific editorial board which currently comprises [19 staff](#).

There is no available information regarding the VLE online's ranking or number of visitors.

Wikipedia contains 183 020 articles in Lithuanian (November 2017).

## 7.16. Luxembourg

Luxembourg has no national online encyclopaedia. Users can access the major online encyclopaedias in English (*Encyclopaedia Britannica*), French (*Encyclopedia Universalis*) and German (Brockhaus) with a national library card.

Wikipedia contains 50 332 articles in Luxembourgish (November 2017).

## 7.17. Hungary

Currently, no updated online general-interest encyclopaedia is available in the Hungarian language. The last of the 19 volumes of the Magyar Nagylexikon ('Hungarian Great Encyclopaedia'<sup>86</sup>) was published in 2004. The online pilot version of this encyclopaedia became available to the subscribers of the printed version in 2008. However, it seems that the homepage of the publisher is no longer working and no further information is available, as it is impossible to contact them neither by phone nor by email. Other encyclopaedias, such as the Britannica Hungaria Great Lexicon, are only available in printed versions.

The Magyar Virtuális Enciklopédia ('[Hungarian Virtual Encyclopaedia](#)'), created jointly by the Ministry of Informatics and Telecommunication and the Hungarian Academy of Sciences with the aim of disseminating scientific knowledge, was last updated in 2005. Some historical encyclopaedias published at the end of the 19th and the beginning of the 20th centuries are also available online, in digital format, one such example being the [Pallas Nagy Lexikona](#) ('Pallas Great Lexicon') published between 1893 and 1897.

Wikipedia contains 417 390 Hungarian-language articles.

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<sup>86</sup> <http://www.lexikon.hu/index.php?pageid=25>.

## 7.18. Malta

There is no Maltese online encyclopaedia. Wikipedia contains 3 211 articles in Maltese (November 2017). The Maltese-language version of Wikipedia does not appear in Wikipedia's statistics on the share of users in Malta using different language versions. Wikipedia users in Malta use the English-language (85.5 %), the Italian-language (4.9 %) and the Russian-language versions (2.9 %).

## 7.19. The Netherlands

The Winkler Prins Encyclopedia is the oldest Dutch encyclopaedia. Its first print edition appeared between 1870 and 1882. Later, new editions appeared at regular intervals. The last paper version was the ninth print, 26 volumes including a world atlas, which appeared between 1993 and 1995. In 1997, Winkler Prins collaborated with Microsoft, which resulted in the Encarta Winkler Prins Encyclopedia on CD, then on DVD and in 2004 online. The collaboration with Microsoft lasted until 2009, when Winkler Prins started building three websites: Big Winkler Prins, Study Winkler Prins and Junior Winkler Prins. All have been online since 2010. Big Winkler Prins has 61 500 articles, Study Winkler Prins 9 500 and Junior Winkler Prins 1 500.

The online product focuses mainly on educational institutes and public libraries. Access is subscription-based. As far as the public libraries are concerned, Winkler Prins Online is part of the basic package of digital content bought by the Royal Library and made available to all public libraries in the Netherlands. Winkler Prins is a commercial encyclopaedia, now part of the publisher Unieboek Het Spectrum bv. On its website, Winkler Prins states that its information is trustworthy and independent. However, no information is given about its editorial policy. There is no available information on Winklerprins.com's ranking or number of unique users.

In 2015, Dutch public libraries participated in a project on 'Wikipedia in the public library', in which five pilot libraries tested a potential [collaboration](#) between Wikipedia and public libraries. The National Library of the Netherlands is also collaborating with Wikipedia in order to increase the visibility and reusability of its content.<sup>87</sup>

With its 1 911 800 articles, the Dutch-language version of Wikipedia is the sixth-largest in terms of the number of articles (November 2017).

## 7.20. Austria

Traditionally, printed encyclopaedias used in Austria were of German origin, supplemented by, for instance, the Österreich-Lexikon.

The online information portal, [Austria-Forum](#), ('Das Wissensnetz aus Österreich') was launched in October 2009. It is based on the Annotierbare Elektronische Interaktive Österreichische Universallexikon ('Annotated Electronic Interactive Austrian Universal Lexicon', aeiou), a digital lexicon launched in 1996, building upon the above-mentioned print edition of the Österreich-Lexikon. Austria-Forum describes itself as a reference source with a focus on Austria, which also contains general knowledge topics. It is a knowledge cluster of expertise that incorporates information from other servers and makes efforts to verify it. Austria-Forum does not consider itself a complete encyclopaedia, but an 'archive' of articles on different subjects. Therefore, the articles

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<sup>87</sup> Telephone conversation with Olaf Janssen, Wikipedia coordinator at the National Library of the Netherlands, 1 December 2017.



are not always up to date. Furthermore, Austria-Forum describes itself as a non-profit organisation, mainly financed by the Technical University of Graz as well as other major universities, the Federal Ministry of Education, the Ministry of Science, the State of Styria, as well as a number of private enterprises. Austria-Forum is open for contributions from users, which are reviewed and edited by a team of approximately 100 [politically independent experts](#).

Austria-Forum currently has some 800 000 entries including documents, images and videos, as well as 1 500 web-books. It has about 5 000 daily users. Access is free of charge; logging in is possible but not necessary. Austria-Forum offers an app for easy mobile access.

Alexa.com ranks the portal [2 380th](#) in Austria (9 January 2018).

In addition, Austrians can access German sources (please see below).

Wikipedia contains 2 103 840 German-language articles (November 2017).

### 7.21. Poland

The [Internetowa Encyklopedia](#) was launched in 2001 by Wydawnictwo Naukowe (PWN), Poland's leading publisher of scientific, educational and professional literature as well as reference works. The online encyclopaedia content is sourced from the PWN's constantly updated encyclopaedic database that serves as the basis for all of its paper encyclopaedias. Initially state-owned and then a private company since 1991, the PWN's mission is to create reliable sources of knowledge. It works with renowned experts and leading academic authorities and employs a team of editors and proof-readers. Users cannot directly edit entries online, but there is a dedicated e-mail address to which they can send contributions and suggestions. These are assessed by experts/editors who decide whether or not they can be included in modifications to the relevant article.

[Encyklopedia.pwn.pl](#) contains some 200 000 items from PWN's continuously updated encyclopaedic database. Alexa.com ranks the website 169th in Poland (10 January 2018).

The content is free of charge; no registration is needed.

Another encyclopaedia is the Wielka Interaktywna Encyklopedia Multimedialna, or [WIEM](#) ('Great Interactive Multimedia Encyclopaedia'; 'wiem' means 'I know' in Polish), which operates on a commercial basis. Incorporated into the Polish web portal Onet.pl since 2000, WIEM is based on the printed Popularna Encyklopedia Powszechna ('Popular General Encyclopaedia'), published by Oficyna Wydawnicza Fogra, and the Multimedialna Encyklopedia Powszechna ('Multimedia General Encyclopaedia'). It contains over 125 000 entries and some 9 000 multimedia files. Its number of users is unknown. Onet.pl is ranked sixth in Poland, according to Alexa.com (10 January 2018).

Wikipedia contains 1 241 853 articles in Polish (November 2017).

### 7.22. Portugal

There is no Portuguese online general-interest encyclopaedia. Wikipedia contains 978 780 articles in Portuguese.

### 7.23. Romania

There is no major Romanian general-interest online encyclopaedia. However, an online encyclopaedia project – [Enciclopedia Romaniei](#) – started in 2008 and currently contains 5 200 articles. According to its founders, this collaborative, non-profit project is written

by volunteers and 'is constantly in need of capable, passionate and dedicated people who share the founding principles and want to participate in this collective project of national interest'. enciclopediaromaniei.ro is ranked 6 923 in Romania according to Alexa. Com (10 January 2018).

Wikipedia contains 379 251 articles in Romanian (November 2017). Among Romanian Wikipedia users, the English-language version of Wikipedia is more popular (48.2 %) than the Romanian one.<sup>88</sup>

## 7.24. Slovenia

There is no Slovenian online encyclopaedia. Wikipedia contains 158 264 articles in Slovenian (November 2017). The English-language version of Wikipedia attracts 55.7 % of Slovenian Wikipedia users, whereas the Slovenian-language version attracts 34 %.<sup>89</sup>

## 7.25. Slovakia

There is no Slovakian online general-interest encyclopaedia. Wikipedia contains 222 703 Slovak-language [articles](#) (November 2017).

## 7.26. Finland

There is no online Finnish-language encyclopaedia. The last major Finnish printed encyclopaedia was published in 2007, and no new projects are currently being planned. This is reportedly due to [competition](#) from free content accessible on the Internet. One of the major publishing houses in Finland, WSOY, tried to market its Facta 2001 encyclopaedia in the 1990es, including a digital version on CD-ROM, and later an online version. However, the latter was discontinued in 2011.

There is a free online Swedish language encyclopaedia, Uppslagsverket Finland ('Finland Encyclopaedia'), which contains information about Finland, its history, nature and culture, with a particular Finland-Sweden emphasis. The online version is based on the printed version, initiated in 1969. The first edition was published in three volumes between 1982 and 1985. The second and last print edition in five volumes was published between 2003 and 2007. The online version was launched in 2009, with funding from the educational association Svenska Folkskolans Vänner, initially established to support Swedish-speaking primary schools and libraries in Finland.<sup>90</sup> Uppslagsverket Finland explains on its website that all its articles are edited and verified, and that they can only be edited by the responsible editor.

There are no data available about uppslagsverket.fi's national ranking.

Wikipedia contains 422 329 articles in Finnish (November 2017).

## 7.27. Sweden

[Nationalencyklopedin](#) (NE) is a comprehensive contemporary, general-interest Swedish-language encyclopaedia, initiated by a loan from the Government of Sweden in 1980.

<sup>88</sup> <https://stats.wikimedia.org/wikimedia/squids/SquidReportPageViewsPerCountryBreakdown.htm>, 6 December 2017.

<sup>89</sup> <https://stats.wikimedia.org/wikimedia/squids/SquidReportPageViewsPerCountryBreakdown.htm>, 6 December 2017.

<sup>90</sup> It now has a broader [mission](#), namely to promote and endorse Swedish language and culture in Finland, through educational programmes, grants, scholarships and annual competitions in creative writing.



There is both a printed version (the last volume was published in 2010) and an internet one. Access to NE.se requires a subscription. For schools and municipalities the price starts at SEK30 per pupil or user/year. Private customers are charged 59SEK per month for access to the encyclopaedia.

NE is a private company providing knowledge services to schools, individuals and businesses. NE expanded its activities in 2015 to Germany, Austria and Switzerland through an exclusive licence agreement with German publisher Brockhaus. The authors of the articles are (external) experts in various subject areas, commissioned by an in-house staff editor. All content is reviewed by the staff editor before being published.

NE.se is offered in the form of iOS- and Android-based apps.

Alexa.com ranks ne.se 400th in Sweden (10 January 2018).

With its 3 788 989 articles, the Swedish-language version of Wikipedia is the third-largest Wikipedia collection of articles in a given language (November 2017).

## 7.28. United Kingdom

*Encyclopaedia Britannica* is arguably the world's leading and best known private general knowledge English-language online encyclopaedia. It was available in print between 1768 and 2010, and has been available online since 1994. Published in the United States since 1901, *Encyclopaedia Britannica* is a global knowledge brand and enjoys a reputation for general excellence, according to Wikipedia. In 2009, *Encyclopaedia Britannica* was awarded a place among the Top Ten UK 'superbrands', despite being published in the US.<sup>91</sup>

*Encyclopaedia Britannica* provides some 120 000 articles, partly free of charge. A variety of different subscriptions are available to institutions, libraries and private individuals. Private individuals pay €66.95 annually for full access to Britannica Online Premium. Britannica.com ranks 1 645th globally, 1 034th in the United States, 1 318th in India. 1 285th and 1 740th in the United Kingdom, according to Alexa.com (10 January 2018).

The English-language version of Wikipedia is by far the biggest in terms of the number of articles; 5 517 389 (November 2017).

## 8. Online encyclopaedias in other languages spoken in Europe

### 8.1. Albania

There is no online national encyclopaedia in Albania. Wikipedia contains 70 672 articles in [Albanian](#) (December 2017). The English-language version of Wikipedia attracts 52.5 % of Wikipedia users in Albania, whereas the [Albanian one](#) attracts 31.1 %.

### 8.2. Belarus

Apart from the scanned version of the Беларуская Энцыклапедыя ('[Belarusian Encyclopaedia](#)'), which was published in the 1990s and put online in 2015, and does not get updated, Belarus does not have an online national encyclopaedia.

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<sup>91</sup> ['Microsoft "is king of UK brands"', BBC News, 14 July 2009.](#)

There are two Belarusian Wikipedias: the Беларуская Вікіпедыя and the Taraškievica: Беларуская Вікіпэдыя. The first uses the official contemporary Belarusian orthography, while the second uses the classical pre-1933 reform orthography, the Taraškievica.

Wikipedia contains 147 749 articles in Belarusian (December 2017). The most popular language versions of Wikipedia in Belarus are the Russian one (with 89.1 % of all page views) followed by the English one (7.9 %). The Belarusian-language version receives 1.2 % of all [page views](#).

### 8.3. Former Yugoslav Republic of Macedonia

The former Yugoslav Republic of Macedonia does not have an online national encyclopaedia. The Македонска Енциклопедија ('Macedonian Encyclopaedia') – a printed encyclopaedia – was published in 2 000 copies by the [Macedonian Academy](#) of Sciences and Arts in 2009. Some 300 copies were sold, while the rest were withdrawn following disputes within FYR Macedonia as well as with neighbouring Greece, Bulgaria, Albania and Kosovo over a number of highly controversial issues, including references to ethnic Albanians as 'Shiptari' (a derogatory term)<sup>92</sup> and allegations that the ethnic Albanian movement in FYR Macedonia, the National Liberation Army, was trained by US and British special forces.<sup>93</sup> According to the Macedonian Academy of Sciences and Arts, unauthorised copies are still circulating on the internet. There are currently no plans to launch a national Macedonian online encyclopaedia.<sup>94</sup>

Wikipedia contains 91 628 articles in Macedonian. The English-language version of [Wikipedia](#) attracts 60 % of Wikipedia users in FYR Macedonia, the Macedonian one 17.8 % and the Russian one 5.8 %.

### 8.4. Norway

Norway's Store Norske Leksikon ('Great Norwegian Encyclopaedia', SNL) is an online encyclopaedia published by the association Foreningen Store Norske Leksikon. The SNL's online version was launched in 2000 and contains a collection of some 200 000 articles, some of which have a history of revision going back to the printed edition of Aschehoug and Gyldendals Store Norske Leksikon.<sup>95</sup> In 2010, the SNL discontinued the printed version due to declining sales. Since 2009, the online content has been accessible to the public free of charge. The SNL experienced a severe economic crisis in 2009-2010, sparking debate about future options amid tough competition from Wikipedia.<sup>96</sup> Then editor-in-chief Petter Henriksen argued against giving the SNL articles to the Wikimedia Foundation because 'It is important that the people behind the articles remain visible'. SNL recovered over the following five years. The SNL model is being discussed as a potential solution to the problems facing the Danish Den Store Danske (see above).

The SNL association is co-owned by 14 organisations and non-profit foundations/organisations, including all Norwegian universities and six non-profit foundations/organisations (including the Norwegian Non-Fiction Writers and Translators' Organisation, the Norwegian Academy of Science and Letters and the

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<sup>92</sup> ['Albanians make up about 25% of Macedonia's population of 2 million'](#), BalkanInsight, 13 December 2017.

<sup>93</sup> ['Macedonia embroiled in encyclopaedia row'](#), Euractiv, 13 September 2009.

<sup>94</sup> Telephone conversation with the Macedonian Academy of Sciences and Arts, 12 December 2017.

<sup>95</sup> [https://meta.snl.no/Great\\_Norwegian\\_Encyclopedia](https://meta.snl.no/Great_Norwegian_Encyclopedia), accessed 1 September 2017.

<sup>96</sup> [Snart slutt for Store Norske Leksikon?](#), nrk.no, 15 October 2009.

Norwegian Meteorological Institute). The association is a non-profit and non-commercial one, and is registered in the official Norwegian non-profit registry, [Frivillighetsregisteret](#). Its current editor-in-chief is Erik Bolstad. A major part of the SNL subject editors come from the universities, which is a way for the latter to share and communicate their research. As a result, today, the SNL is Norway's biggest forum for communicating research and science. It costs an estimated NOK16 million annually to run SNL; half of this amount goes to the some 700 paid subject editors. The rest goes to the editors' team and the development of the digital platforms.

In its editorial policy, the SNL aims for radical transparency and for visibility of as many layers of text production as possible. Unlike Wikipedia, SNL contributors must use their full name and are encouraged to supply their biographies, including their background and qualifications. Although all users can contribute, their contributions will only go online once they have been assessed by an editor. The SNL uses assigned subject editors ('fagansvarlige'), who, in addition to editing users' contributions, can submit content directly on the website. An editor's contribution is only reviewed by other SNL editors once it has already been published online. The revision history is publicly accessible. In SNL authors' own words, the SNL combines 'an emphasis on interaction with the public with the requirement for signed content'. This distinguishes the SNL from traditional general-knowledge encyclopaedias, where most articles are unsigned and direct interaction with the authors is impossible. However, it also sets the SNL apart from Wikipedia, 'where the responsibility behind a given article rests on ... the greater, often nameless or pseudonymous public that has contributed to that article'.<sup>97</sup> Similar to the Swedish National Encyclopaedia (NE), the SNL has decided not to compete with Wikipedia in the field of pop culture and sports, but to focus instead on science and political developments.<sup>98</sup>

The SNL is not accessible via a mobile app; the website is ranked 109th in Norway according to Alexa.com (10 January 2018).

Wikipedia contains 475 424 articles in Norwegian (November 2017).

## 8.5. Russia

Большая Российская Энциклопедия ('Great Russian Encyclopedia', GRE), is a universal Russian encyclopaedia in 35 volumes, published since 2004, with the last volume planned for publication in 2018. Work on the electronic version is ongoing. Since April 2016, the Great Russian Encyclopedia has been available online at Bigenc.ru.

On 25 August 2016, a government decree was signed to set up a working group on issues related to the creation of a 'national scientific and educational interactive encyclopaedic portal', on the basis of the Great Russian Encyclopedia and with the involvement of other Russian scientific encyclopaedias. Deputy Prime Minister Sergei Prikhodko, who heads the working group, said that there were no plans to replace or prohibit Wikipedia. GRE editor-in-chief, Sergei Kravets, explained that the working group combines expertise from museums and archives, libraries and universities, scientific institutions and statistical databases, with the aim of creating a 'garbage'-free information space. Federal

<sup>97</sup> G. Kjøl & A. M. Goda, *Store Norske Leksikon: Defining a New Role for an Edited Encyclopaedia*, in ['Changing Orders of Knowledge? Encyclopedias in Transition'](#), *Culture Unbound — Journal of Current Cultural Research*, Volume 6, Theme 3, 2014.

<sup>98</sup> ['Vores broderlande kan godt lave en forretning ud af digitale opslagsværker'](#), *Politiken*, 28 August 2017.

Agency for Press and Mass Communications deputy-head, Vladimir Grigoriev, said that some Wikipedia approaches would be used in the portal: for example, users would be able to send comments, which the moderators would check and possibly include in the articles.<sup>99</sup>

Bigenc.ru offers universal, general-interest information and ranks 14 032nd in Russia, according to Alexa.com (10 January 2018).

With 1 422 555 articles, the Russian version of Wikipedia is the seventh-largest in terms of articles (November 2017).

## 8.6. Serbia/Montenegro/Bosnia

There is no online encyclopaedia in Serbian/Montenegrin/Bosnian. Wikipedia contains 356 475 Serbian-language articles. In Serbia, Wikipedia users prefer the English-language version (44.8 %) to the [Serbian one](#) (37.7 %). Wikipedia contains 75 505 articles in Bosnian. In Bosnia-Herzegovina, Wikipedia users prefer the following versions: English (40.9 %), Croatian (23.6 %), Serbian (15.5 %) and Bosnian (7.9 %).<sup>100</sup> There is no Montenegrin-language version of Wikipedia (November 2017). There are 441 420 articles in Serbo-Croatian in Wikipedia (November 2017).

## 8.7. Switzerland

The Historical Dictionary of Switzerland (HDS) is an academic reference work that includes key topics and images related to Swiss history from prehistory up to the present. Financed by research grants, the HDS is published by the Foundation Historical Dictionary of Switzerland and the Swiss Historical Society in the country's three official languages, German, French and Italian. The [online version](#) has been available since 1998. All articles are free of charge, but images are only published in the print edition.

According to the HDS website, some 30 staff are employed at the central editorial office. Approximately 100 academic advisers from Swiss/foreign universities or from cantonal (state) archives are also included in the work. More than 2 500 highly qualified historians are drafting the entries, which are translated by a team of over 100 specialists.

According to Alexa.com, the website ranks 2 392nd in Switzerland (10 January 2018).

## 8.8. Turkey

In Turkey, general encyclopaedias are almost exclusively available in print. Most are relatively old, and some are translations of foreign encyclopaedias, two examples being the Meydan-Larousse and the AnaBritannica encyclopaedias. Turkish-language users have access to Turkcebilgi.com, a collaborative information site with Turkish content, launched in 2004. Access is free of charge; contributors have to register. The number of articles is unknown. According to Alexa.com, Turkcebilgi.com ranks 454th in Turkey (10 January 2018).

Wikipedia contains 298 944 Turkish-language articles (November 2017). Wikipedia (all language versions) was banned by the Turkish authorities in April 2017.<sup>101</sup>

<sup>99</sup> ['Бороться с интернетом бессмысленно'](#) ('fighting the internet is pointless'), [kommersant.ru](#), 19 September 2016.

<sup>100</sup> Ibid.

<sup>101</sup> ['Six months later: People of Turkey still denied access to Wikipedia'](#), Wikimedia blog, 1 November 2017.

## 8.9. Ukraine

The online Енциклопедії Сучасної України ('[Encyclopaedia of Modern Ukraine](#)') contains some 100 000 articles from a multi-volume comprehensive encyclopaedic edition about Ukraine from the beginning of the 20th century until now. The encyclopaedia provides information about modern Ukraine, focused on historical events, institutions, organisations and people. In total, 30 volumes are planned; by 2016, 17 volumes had been published. It is published by the Institute of Encyclopaedic Research of the National Academy of Sciences of Ukraine and is authored by more than 1 000 experts and scientists from the institutions under the authority of the National Academy of Sciences of Ukraine. The encyclopaedia will serve as the basis of the national multi-volume Ukrainian Universal Encyclopaedia, a joint project of the National Academy of Sciences of Ukraine and the Shevchenko Scientific Society. According to Alexa.com, Esu.com.ua ranks 6 322th in Ukraine (10 January 2018).

In addition to articles on the history of Ukraine, the online version of the Енциклопедія історії України ('[Encyclopaedia of Ukrainian History](#)') publishes general articles covering contemporary developments in world historiography and political science, as well as biographies of famous people and information about the most influential international organisations. It comprises 10 volumes with approximately 11 000 articles. Three more volumes are planned, including one devoted to Euromaidan/the Revolution of Dignity, the annexation of Crimea, the war in eastern Ukraine, as well as other events and personalities that shaped the country after Euromaidan. The encyclopaedia is prepared and published by the Institute of History of the National Academy of Sciences of Ukraine. The website ranks 2 840th in Ukraine according to Alexa.com (10 January 2018).

Both of online encyclopaedias are accessible free of charge.

Wikipedia contains 738 070 articles in Ukrainian (November 2017). [Wikipedia users](#) in Ukraine prefer the Russian version (61.6 %) to the Ukrainian version (25 %).





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The post-fact era – in which emotions trump evidence, while trust in institutions, expertise and mainstream media is declining – is putting our information ecosystem under strain.

At a time when information is increasingly being manipulated for ideological and economic purposes, public access to source of trustworthy general-interest knowledge – such as national online encyclopaedias – can help boost our cognitive resilience.

Basic, reliable background information about history, culture, society and politics is an essential part of our societies' complex knowledge ecosystem, and an important tool for any citizen searching for knowledge, facts and figures.

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