



# VIRTUAL RUSSIAN WORLD IN THE BALTICS

PSYCHOLINGUISTIC ANALYSIS OF ONLINE BEHAVIOUR AND IDEOLOGICAL CONTENT  
AMONG RUSSIAN-SPEAKING SOCIAL MEDIA USERS IN THE BALTIC STATES

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## DISCLAIMER:

The present research emerged from cooperation between the NCDSA and the NATO StratCom COE; however, this publication contains only the personal views of its authors and should not be considered the official position of any organisation with which they may be affiliated.

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# EXECUTIVE SUMMARY

More than one in four people in the world have online social network accounts; Facebook (FB) alone has over two billion users, and the site is by some estimates the second-most popular in the world after Google. By comparison, VK, the largest Russian social network on the European continent, has more than 460 million registered user profiles and ranks 10th most popular in the world. Even a regional, largely Russian-speaking network Odnoklassniki [literally “Classmates”] can boast some 330 million users and the 27th place worldwide. There is more and more evidence that Russia has been conducting a long-term campaign aimed at a Western audience which includes both so-called soft power tools as well as more active measures. Social networks emerged as active channels through which Russia actively spreads a toxic mix of disinformation and propaganda.

Russia views the Baltic states—and their Russian-speaking populations—as key target groups that can be used as focal points for efforts to spread a disruptive influence, reshape political and popular opinion, and reinforce misleading or false images and narratives. The main objective of the current analysis is the study of the demographic, public posts, and behaviour patterns of Russian-speaking users of VK, OK, and FB in Estonia, Latvia, and Lithuania. The analysis achieves this by evaluating the general characteristics of its chosen statistical sample of the target audience; analysing the public profiles and posts of social network users in the target regions; describing the public profiles of users who create, distribute, and consume ideological content; describing the typical online behaviour of ideological active users; investigating the structure of the relationships between ideological active users and ideological groups, and examining the rhetoric used in posts while researching thematic associations related to ideological content. A variety of analytical methods were used, including information search algorithms, data visualisation, applied linguistics tools, structural network analysis, elements of expert systems theory, trend and opinion analysis, neural networks, and machine learning.

Profiles and public Russian-language posts/comments in the three social media networks in the Baltic states served as the analysis sample, with a geographical focal points being the areas in the three states that comprise large Russian-speaking population: the cities of Tallinn, Maardu and Paldiski as well as Ida-Viru county in Estonia; the cities of Riga, Jūrmala, Jelgava and Liepāja as well as the Latgale region in Latvia; the cities of Vilnius, Visaginas, Klaipėda, Kaunas, Šiauliai as well as Šalčininkai and Vilnius districts in Lithuania. Textual analysis, conducted during the period from January 2013 to May 2017, focused on eleven macro topics such as



the USSR, World War II, Russia, West, Ukraine, non-citizens, defence forces, Allies, hostile influence, etc., each of which contained a number of carefully chosen keywords.

Analysis revealed presence of a relatively small but significant proportion of active ideological users in every network in each of the Baltic states—the ones who primarily create, support, and disseminate pro-Russian rhetoric, exploiting the increasingly well-developed connections among users as well as the growth in the number of public groups featuring ideological content. The analysis in this study shows that 10% of Russian-speaking social network users (identified as real people rather than bots) generate 70% of the ideological information found on those networks. Many events taking place offline are used as pretexts to push certain topics into public discussion, making use of dramatic language. Particular attention is paid to topics related to the Second World War, the USSR, present-day Russia, and anti-Western sentiment. Russian-speaking sectors of social networks in the Baltic states are thus widely used both to continue Russia’s information activities against EU and NATO member countries while cementing its own positive image among the Russian-speaking population of Estonia, Latvia, and Lithuania.

Analysis also revealed clusters of clearly active and interconnected ideological users, each of which specialises in the creation (Writers), distribution (Distributors), or consumption (Readers) of ideological information. In addition, there is a significant number of members of “active reserve”, from which the ranks of the above clusters are replenished. It seems that users who create ideological content on a wide range of macro topics do not give any preference to any particular topic; consequently they have no personal desire to promote certain political values or views, which indicates that they might be motivated by non-ideological factors—perhaps even those that are material in nature. Nonetheless, there is a significant—and growing— number of Russian-speaking social media groups and communities in the three networks members of which are based in the Baltic states and which exhibit pro-Kremlin, pro-Russia and anti-Western orientations. They serve as sources of ideological posts that are widely disseminated by active users who capitalise on their connectivity and visibility among the Russian-speaking users of VK, OK and FB in the Baltics.



# INTRODUCTION

As a result of the rapid growth of information technology in recent years, over 80% of people in the more socioeconomically-advanced countries have access to the internet.<sup>i</sup> On a global scale, more than one in four people have online social network accounts; Facebook alone has over two billion users,<sup>ii</sup> and the site is by some estimates the second-most popular in the world after Google. By comparison, VK, the largest Russian social network on the European continent, has more than 460 million registered user profiles, and its site ranks 10th most popular in the world. Even a regional, largely Russian-speaking network such as Odnoklassniki [literally “Classmates”] can boast some 330 million users,<sup>iii</sup> and is the 27th-most popular website globally. As a principal source of political, cultural, and even academic information, social networks have not only become an effective tool for shaping public opinion, but also for waging information warfare.<sup>iv</sup> In recent years, the influence of social networks on political and social processes has become even more pronounced.<sup>v</sup> Experts have identified a number of important reasons contributing to what can be called the rapid “weaponisation” of social networks: a lack of geographic boundaries or tangible restrictive barriers; the abuse of freedom of speech and opinion, the impunity with which some have been able to sow hatred and spread disinformation; and the incomplete nature of legislation regulating online activity in general.<sup>vi</sup>

Due to steadily mounting evidence about the widespread use of social networks on a broad spectrum of issues to increase pressure on—or aggressively manipulate public opinion in—a wide range of countries,<sup>vii</sup> we can conclude with confidence that what we are seeing is often the result of planned and coordinated actions<sup>viii</sup> undertaken in pursuit of the operational or even strategic objectives of both state actors as well as non-state entities and some political groups. Taking into account the speed at which information is produced and disseminated on social media—as well as the patterns according to which it is consumed by different segments of the population—it is clear that the opinions and actions of those living in areas of geopolitical interests is itself a critical factor affecting national security.

After its occupation of Crimea, unleashing open war in eastern Ukraine, and military adventures in Syria, there is more and more evidence that Russia has been preparing a long-term campaign aimed at a Western audience which includes both so-called soft power tools as well as more active measures. Moreover, it is now actively using all means at its disposal to exert hostile influence not only on its “near abroad”, but also on members



of the EU and NATO—in particular, the Baltic states.<sup>ix</sup> Recently, social networks—as active channels through which Russia has actively spread a toxic mix of disinformation and propaganda—have attracted increased world attention.<sup>x</sup> Given the very large scale and considerable consequences of these hostile activities, mainstream analysts are primarily interested in those information campaigns or operations conducted in English and either directly carried out, or indirectly supported, by Russian government agencies. Nevertheless, the experience of Ukraine clearly demonstrates that other languages—that is, those spoken by the targeted populations—can be used in destabilisation efforts. In light of Russia’s continuing attempts to restore its influence within the boundaries of the former Soviet Union as well as the Kremlin’s increasing use of imperialist rhetoric and large-scale investment in its so-called compatriots policy,<sup>xi</sup> we can conclude that Russia views the Baltic states—and their Russian-speaking populations—as key target groups. These target groups can be used as focal points for efforts to spread a disruptive influence, reshape political and popular opinion, and reinforce misleading or false images and narratives. Thanks to social networks, it has become possible to conduct these efforts more effectively in the Russian language.

Even though regular opinion surveys can provide a generally adequate representation of the prevailing popular view of a given event or phenomenon, it is still worth noting that for certain social groups, some topics are so highly emotionally or ideologically charged that the results of opinion polls—the accuracy of which depends on numerous factors—can be distorted. In a pilot study conducted among Russian speakers in Estonia, experts from the National Centre of Defence & Security Awareness (NCDSA) found that respondents often answer in a rather formulaic way to questions related to events of relatively recent history (such as World War II or the collapse of the USSR) as well as to those relating to Russian foreign policy, the persona of President Vladimir Putin, modern hybrid threats, NATO, the security and defence of Estonia, the war in Ukraine, and other topics. In this case, the respondents’ choices are in part affected by the factor of social desirability: that is, on certain topics, they give answers that they believe are more acceptable to other people. Analysis of Russian-language discussions of the above topics on social networks reveals that online, Russian-speaking residents of Estonia express their views much more openly and straightforwardly (e.g. being more pro-Putin and/or anti-NATO), while defending their respective positions more vigorously.

Since security and defence topics are among those subject to the influence of social desirability, we can accordingly expect some bias to affect the accuracy of opinion polling. This has prompted the authors to believe that a large number of seemingly subjective observations may in reality have objective foundations that are—for various reasons—not accurately reflected in polling results. The authors have also taken an interest in the details and trends of Russian-language public discussions on social networks in the Baltic states, in order to ascertain where these discussions seem to be heading, and whether there may be attempts from outside to push them in any particular direction.



# I. GLOSSARY OF TERMS

The list below consists of key terms that were used in this study. These were formulated by the authors, and therefore this is unofficial terminology aimed at helping the readers to understand the essence of these key terms.

**Post** (or public posting)—a text or commentary published to a social network, whether on a user’s “wall” or “timeline”.

**User**—an individual public profile on a social network.

**Active user**—an individual public profile that has either published or republished (“reposted”) at least one public post.

**Macro topic**—a set of unique keywords that characterise a particular phenomenon, event, or process; it can encompass words from the literary language as well as jargon and slang.

**Ideological post**—a public post record containing at least one keyword from the list of macro topic below, filtered according to the research methodology.

**Ideological active user**—an individual public profile on a social network that produces, distributes, or accesses ideological posts.

**Ideological group**—a public group featuring reposted ideological information.

**Friends**—users whose profiles are directly linked on social networks.

# II. GOALS AND OBJECTIVES

The main objective of the current analysis is the study of the demographic, public posts, and behaviour patterns of Russian-speaking users of the online social networks vk.com, where vk is short for “v kontakte”, literally “in contact” (VK), *odnoklassniki.ru* (OK) where *odnoklassniki* literally translates as “classmates” in English, and the far more well-known, to western readers in particular, Facebook (FB) in the three Baltic states of Estonia, Latvia, and Lithuania.

In support of this main objective, this analysis also aims to:

1. Evaluate the general characteristics of its chosen statistical sample of the target audience.
2. Analyse the public profiles and posts of social network users in the target regions.
3. Describe the public profiles of users who create, distribute, and consume ideological content.
4. Describe the typical online behaviour of ideological active users.
5. Investigate the structure of the relationships between ideological active users and ideological groups.
6. Examine the rhetoric used in posts while researching thematic associations related to ideological content.





# III. METHODOLOGY

Given that as of this writing, no similar studies have been published elsewhere, the authors have adopted an experimental approach to the methodology of this analysis that has enabled flexibility in pursuit of its objectives. As a result, a variety of analytical methods were used, including information search algorithms, data visualisation, applied linguistics tools, structural network analysis, elements of expert systems theory, trend and opinion analysis, neural networks, and machine learning.

Since the objective was to study Russian speakers in the Baltic states, the most popular social networks among this segment of the population were chosen for the study. It was hypothesised that the three most widely used were OK, VK, and FB. Instagram was excluded because it is predominantly an image-sharing platform, and the current study focuses on *textual* analysis. As for Twitter, initial efforts to gather information called into question its relative popularity among Russian speakers in the Baltic states—doubts that were later confirmed by a comparative analysis of the frequency of relevant Russian-language search terms on Google (Figures 1–3).

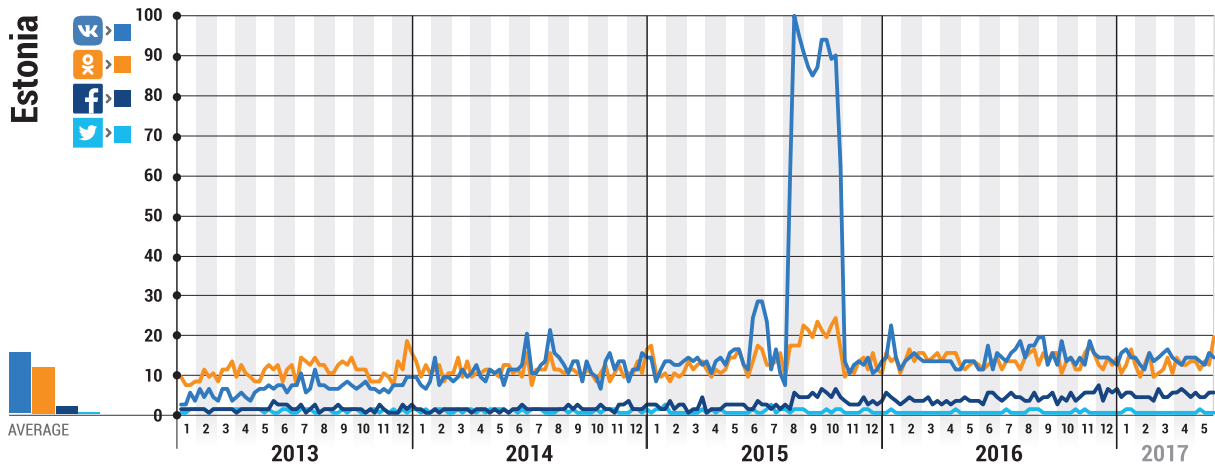


Figure 1: Relative Frequency of Russian-Language Search Terms Related to Social Networks in Estonia<sup>1</sup>

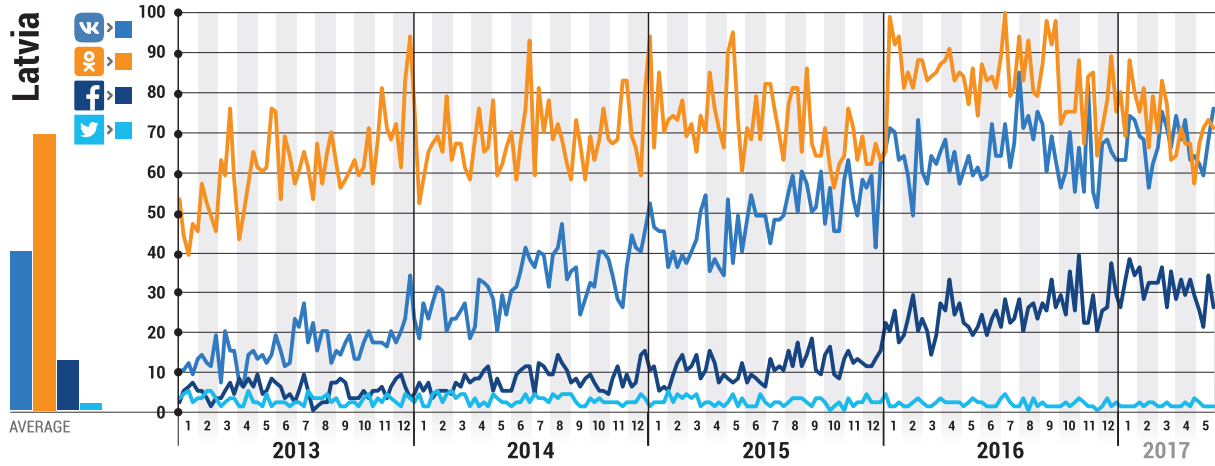
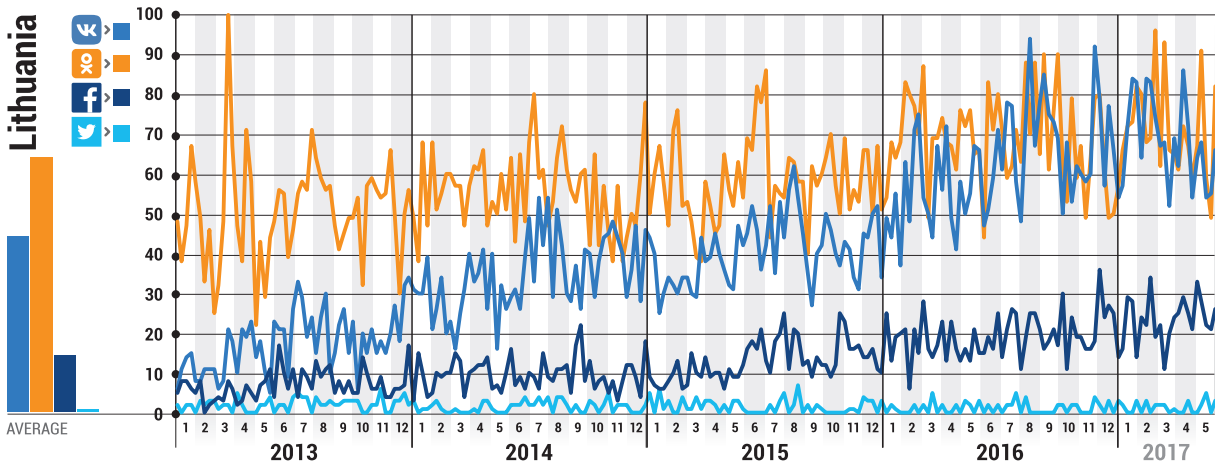


Figure 2: Relative Frequency of Russian-Language Search Terms Related to Social Networks in Latvia

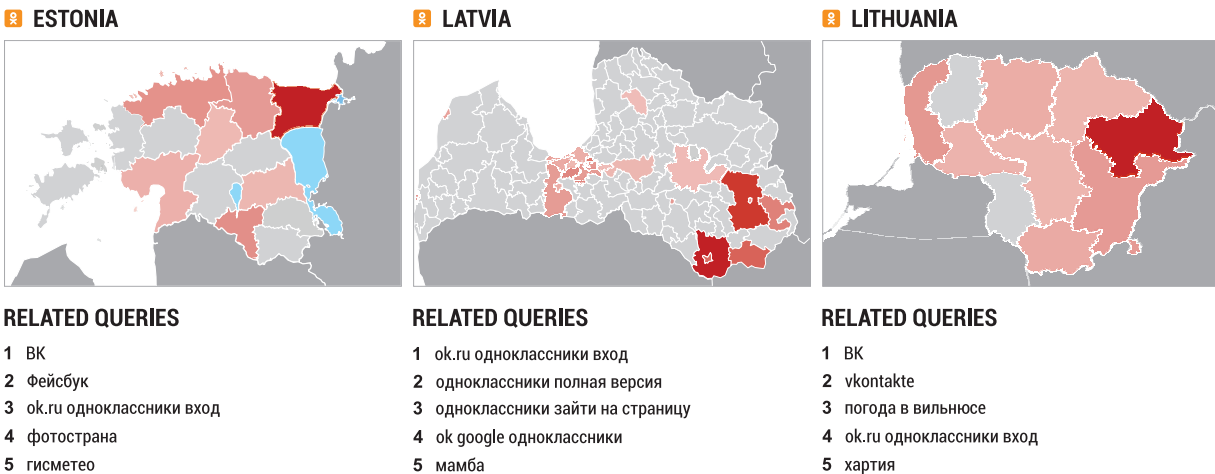
<sup>1</sup> The peak of search requests for VK in 2015 is most likely explained by a combination of three events that year: worldwide technical malfunctions in August, its online store launch in September, and the revelation of large-scale hacking of user accounts in October.





**Figure 3: Relative Frequency of Russian-Language Search Terms Related to Social Networks in Lithuania**

Even if the results regarding Twitter had been anticipated, the notably greater popularity of OK in Latvia and Lithuania was surprising. While one could point out that unlike Facebook and Twitter—two unique terms that do not have any other meaning in Russian—“odnoklassniki” is a Russian word which as noted above means simply “classmates,” a more detailed analysis shows that most searchers did indeed concern the social network itself (Figure 4).



**Figure 4: Search Requests for Terms Related to OK in the Baltic States**

Accordingly, all three social networks were included in the study, which is based on an analysis of the profiles and Russian-language public posts/comments of almost five million users in the Baltic states during the period from January 2013 to May 2017 (Regarding the aforementioned user total, it should be noted that each individual account on each network is counted separately; the number of actual individuals involved is likely to be smaller). From a technical point of view, VK and OK are similar in that the totals for these networks include all users with a profile location in the Baltic states—they also include those with no listed geographic location, if over 75% of the user’s friends were listed as being located in one of the three Baltic states, since it seems highly likely that this is where the user is located too).



The total user databases for VK and OK in the Baltics was 1.06 million users and OK 1.03 million respectively. There was no similar technical way of gathering user profiles in FB by geographic location however. As a result, in order to gather data on FB users from the target regions, advertising filters were used, resulting in a general database of 2.86 million users.

This study's analysis of ideological content is based on 11 macro topics, each of which is associated with a number of keywords.<sup>2</sup> The keywords were chosen for each macro topic based on consideration of the prevailing terms used on Russian-language internet portals in the Baltic states (e.g. articles and comments on Baltic online news portal Delfi) and public topical discussion on social media, taking into account the specifics of each country.

MACRO TOPIC	EXAMPLE KEYWORDS <sup>3</sup>
Russia	Russian world, Russian spring, <i>iskandery</i> <sup>4</sup> , Putin, great power ( <i>velikoderzhavie</i> ), Shoigu <sup>5</sup> , <i>krymnash</i> <sup>6</sup> ... + 90 more
Russian Orthodox Church	Orthodoxy, ROC, spiritual foundations ( <i>dukhovnye skrepy</i> ), Metropolitan Kirill [ <i>the patriarch of the Russian Orthodox Church – ed.</i> ], Moscow Patriarchate ... + 31 more
World War II <sup>7</sup>	Great Victory ( <i>velikaya pobeda</i> ), May 9, Immortal Regiment ( <i>Bessmertnyi Polk</i> ), our grandfathers were at war ( <i>dedy voyevali</i> ) #wecanrepeatit ( <i>mozhem povtorit'</i> ) ... + 42 more
USSR	USSR, NKVD, Estonian SSR, Lithuanian SSR, Soviet Baltic ( <i>Sovyetskaya Pribaltika</i> ), CPSU, Little Octobrists, Komsomol ... + 90 more
West	Gayrope ( <i>Geyropa</i> ), shitocracy ( <i>dermokratiya</i> ), <i>tolerast</i> , <i>liberast</i> , overseas curators ( <i>zaokeanskie kuratory</i> ) ... + 33 more
Anti-Baltic	Russophobes, Eesti404, <i>labasy</i> , <i>labrity</i> , <i>kurady</i> , <i>fashiki</i> , <i>integrasti</i> ... + 57 more
Allies	NATO, Aadaži, Āmari, Tapa, Zokniai, allies, Bundeswehr, international battalion ... + 39 more
Ukraine	<i>Novorossiya</i> , DPR, LPR, <i>kokhly</i> , Kiev junta, <i>banderovtsy</i> , Ukrofascism ... + 58 more
Defence Forces	Kaitsevāgi <sup>8</sup> , Latvian Army, Lithuanian Army, Javelin, Jaunsardze <sup>9</sup> , <i>zemesy</i> <sup>10</sup> , defence forces ... + 90 more
Non-Citizens	non-citizens, grey passport holders <sup>11</sup> ( <i>seropasportnik</i> ), violet passport <sup>12</sup> , naturalisation ... + 26 more
Hostile Influence	propaganda, Baltnews, Sputnik, Kremlin bots ( <i>kremleboty</i> ), Russian School of Estonia, ribbon of St. George, fifth column ... + 96 more

2 Before proceeding with the main detailed analysis, the collected data was first scrubbed of messages containing no textual content (e.g. those that had only links, audio files, images, etc.), as well as those that were not in the target language (to identify posts in Russian, the poliglot library of the Python software program was used. Then, using the tokenizer module of the nltk python library, individual words were extracted from the messages, while extraneous characters (punctuation marks, emoji, etc.) were deleted. Based on the pymorphy2 library, the words were lemmatised (that is, reduced to their uninflected dictionary form, without endings) and placed in all-lowercase letters. Posts written in the Roman alphabet were not transliterated, but instead excluded from the database—as were garbled or nonsense texts. After these preliminary steps were completed, the characteristics of public user profiles were analysed and the number of posts on a given macro topic were calculated.

3 Russian, unlike English, is a highly inflected language which means the endings of some words such as nouns and adjectives change depending on their position in a sentence, number, gender etc.

4 Slang for the 9K720 Iskander short-range ballistic missile system (translator's note).

5 General Sergey K. Shoigu, Minister of Defence of the Russian Federation since 2012 (translator's note).

6 Slang for "Crimea is ours" (translator's note).

7 In the study, the term actually used is *Velikaya Otechestvennaya Voyna*, literally "Great Patriotic War"—as the conflict is known in Russia and much of the Russian-speaking communities outside the country (translator's note).

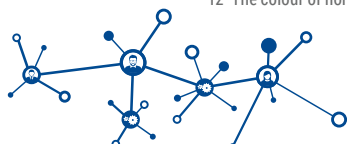
8 [Estonian] Defence Forces (translator's note).

9 Literally "Youth Guard"—a Latvian voluntary defence organisation (translator's note).

10 Slang for members of the Latvian National Guard (*Zemessardze*) (translator's note).

11 Grey passports, are passports issued to those persons, mostly of Russian heritage, who live in the Baltic States but are not citizens either of any of the Baltic states or Russia or any other state, and are issued grey-coloured passports by Estonia's authorities and which can be used as travel and ID documents.

12 The colour of non-citizen passport in Latvia is violet.



# IV. CHARACTERISTICS OF THE STUDY SAMPLE

In conducting analysis of these social networks, it was necessary to take into account their degree of popularity in the Baltic states, especially among Russian-speaking users. Accordingly, a common set of characteristics of such users was drawn up: for FB, it was based on marketing data, for VK, on downloaded public profiles of users listed as being located in the Baltic states; and for OK, user profiles compiled from search results. Special emphasis was paid to the three national capitals, as well as to other cities or regions that are home to substantial portions of the countries' Russian-speaking populations. More specifically, the geographic focal points were:

- **Estonia:** Tallinn (as well as nearby towns such as Maardu and Paldiski); Ida-Viru County in the east of the country;<sup>13</sup>
- **Latvia:** Riga (including nearby cities such as Jūrmala and Jelgava); Liepāja; the Latgale region in the east of the country;
- **Lithuania:** Vilnius (including Vilnius District), Klaipėda, Šiauliai, Visaginas, Kaunas; Šalčininkai District

All three social networks can be found among the top 10 (Latvia), 15 (Estonia) or 20 (Lithuania) most visited websites in the Baltics.<sup>xii</sup>

SOCIAL NETWORK	DAILY TIME ON SITE PER VISITOR (IN MINUTES AND SECONDS)	DAILY UNIQUE PAGE VIEWS PER VISITOR
VK	10:25	4.74
FB	10:41	4.04
OK	4:47	2.15

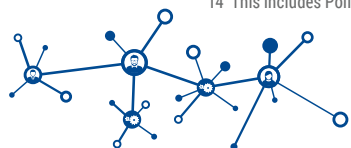
It is interesting to compare the ratios of social network users to the total populations of the Baltic states (based on 2017 data<sup>xiii, xiv, xv</sup>), as in the following table; similarly interesting is the ratios of user profiles to Russian speakers, which make up approximately 36% of Latvia's population (with the figures for Estonia and Lithuania being around 29% and just 12% respectively<sup>14</sup>).

SOCIAL NETWORK	RATIO FOR ESTONIA AS A WHOLE	RATIO FOR RUSSIAN SPEAKERS IN ESTONIA	RATIO FOR LATVIA AS A WHOLE	RATIO FOR RUSSIAN SPEAKERS IN LATVIA	RATIO FOR LITHUANIA AS A WHOLE	RATIO FOR RUSSIAN SPEAKERS IN LITHUANIA
FB	0.47	1.6	0.40	1.08	0.52	4.36
VK	0.25	0.85	0.24	0.66	0.09	0.76
OK	0.19	0.65	0.31	0.85	0.06	0.52

These indirect indicators (ratios above) show that in the Baltic states, two social networks (VK and OK) are majority Russian-speaking: VK is larger in Estonia and Lithuania, while OK predominates in Latvia. If we look separately at each country, we can see that in Figure 5 that the majority of users in Estonia are registered on Facebook, with only half as much on VK and even less on OK. If we compare the general data of users on the social networks under consideration with general population data,<sup>xiii</sup> we can see that the ratios of user profiles to overall inhabitants—both in Estonia as a whole and in two areas with large Russian-speaking populations—are as follows:

<sup>13</sup> Also known by its Estonian name, Ida-Virumaa, the county is located in northeastern Estonia; its largest population centre is the city of Narva on the Russian border (translator's note).

<sup>14</sup> This includes Polish ethnic minority, who tends to consume information in Russian as well as Polish.



SOCIAL NETWORK	ESTONIA AS A WHOLE	TALLINN, MAARDU, AND PALDISKI	IDA-VIRU COUNTY
FB	0.47	0.76	0.24
VK	0.25	0.26	0.41
OK	0.19	0.28	0.39

There is a notably significant difference in the relative popularity of the relevant social networks in these targeted regions. About half of all FB users in Estonia are associated with the capital of Tallinn or nearby cities, compared with only 5% in Ida-Viru County, and while FB enjoys relative dominance in the Tallinn area, VK and OK are preferred in Ida-Virumaa.

Meanwhile, the data in Latvia (Figure 5) reveals that OK is the second-most-popular social network in the country after FB. Riga and the two nearby cities included in this study contain the largest shares of users of all three networks. At the same time, the predominance of OK is notable in Latgale, home to only 8% of FB users. It is also noteworthy that Latvia alone holds 60% of all Baltic OK users, indirectly echoing the results of the earlier comparison of the ratio of registered user profiles to the total numbers of Russian-speaking inhabitants (according to general statistical indicators) in the Baltic states.

The ratios of registered users to the general population (as measured in official statistics)<sup>xiv</sup> in Latvia, both as a whole and in the specific areas chosen for the study, are as follows:

SOCIAL NETWORK	LATVIA AS A WHOLE	RIGA (INCLUDING JŪRMALA AND JELGAVA)	LATGALE	LIEPĀJA
FB	0.40	0.63	0.24	0.45
VK	0.24	0.25	0.17	0.17
OK	0.31	0.41	0.43	0.10

In Lithuania, the situation differs markedly from those in Estonia and Latvia, undoubtedly due to the smaller Russian-speaking population in the country. As shown in Figure 5 FB users dominate significantly—comprising 77% of the total (and more than half of the total number of FB users in the three Baltic states combined), with OK making up only 9% of Lithuanian social network profiles.

In terms of regional figures, Visaginas and Šalčininkai District stand out in that the relative popularity of OK and VK is much higher than elsewhere, but the total number of users remains low. It is noteworthy that about half of all OK users (and 40% of the Lithuanian total of social network users) reside in Vilnius or in Vilnius District. Nonetheless, FB prevails among users in larger cities.

The ratios of registered users to the general population (as measured in official statistics)<sup>xv</sup> in Lithuania, both as a whole and in the specific areas chosen for the study, are as follows:

SOCIAL NETWORK	LITHUANIA AS A WHOLE	VILNIUS AND VILNIUS DISTRICT	KAUNAS	KLAIPĖDA	ŠIAULIAI	VISAGINAS	ŠALČININKAI DISTRICT
FB	0.52	0.72	0.70	0.58	0.56	0.3	0.31
VK	0.09	0.10	0.05	0.09	0.03	0.3	0.06
OK	0.06	0.13	0.04	0.13	0.02	0.8	0.06



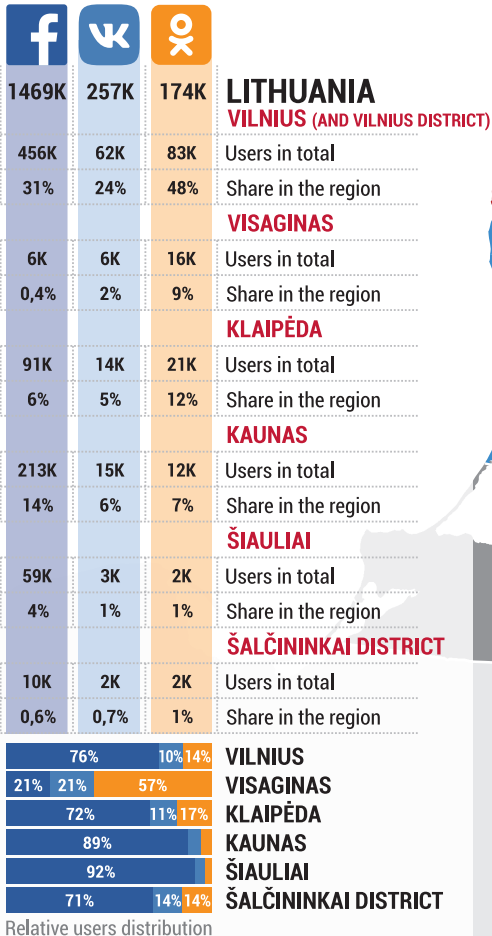
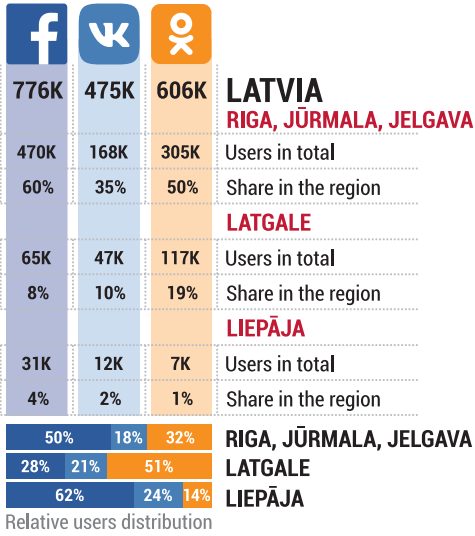
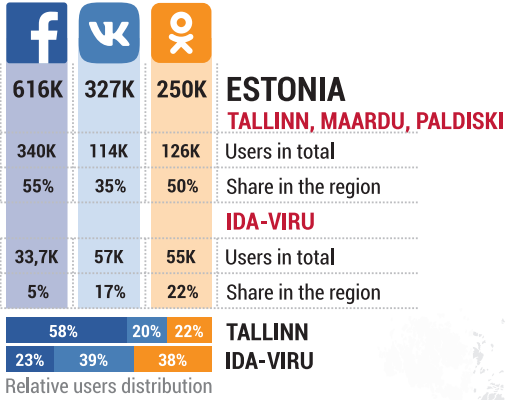


Figure 5. Distribution of Social Network Users in the Baltics

As for aspects of age and gender, it should be noted that VK's audience is the youngest (the overwhelming majority of users are under 30) while FB and OK users are older on average (with the largest age groups being 25–30 and 30–35 for FB and OK respectively) (Figure 6). At the same time, the relative differences among countries and social networks are interesting, notably the preference given by Lithuanian residents to FB and users from Latvia to OK. In addition, OK contains the largest share of the last age group—people over 60. In this case, with both FB and OK, female users predominate (especially in the 60+ group); the number of older women on OK is comparable to the number of 20 year-olds, for instance.

As a next step, users' activity on social networks was analysed, with activity being defined for this purpose as the number of friends added, interest groups joined, and public posts made. Due to the unavailability of this data for FB, this analysis could be conducted only on VK and OK.

More than 40% of VK and OK users had no online friends (or had friend totals that were unavailable/hidden) while around 30% of those on VK and 20% on OK had between 1 and 20. The number of friends of OK users was notably higher, especially in Lithuania (Figure 7). We should also note that around 2,000 VK users in both Estonia and Latvia, as well as about 1,000 in Lithuania, had more than 500 friends each; these users thus have the ability to disseminate information more widely. It is significant that, compared with VK, there are far fewer such users on OK, in light of the greater general amount of friendships on that network.

It is also worth noting that during their entire time on the networks, 70% of OK users and 30% of those on VK have not made a single public post or hidden any previously published. About 20,000 VK users from Latvia and Estonia have each published more than 500 posts, along with around 5,000 from Lithuania (Figure 8).

## DISTRIBUTION OF USERS BY AGE AND GENDER

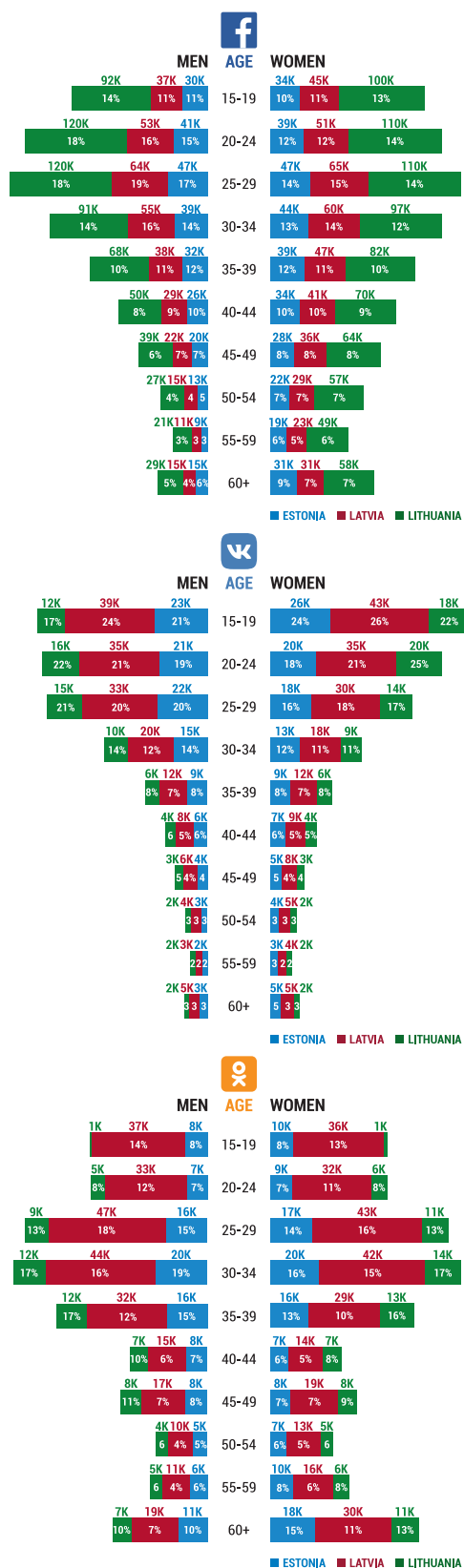


Figure 6: Distribution of Social Network Users in the Baltic States by Age and Gender



## Friends

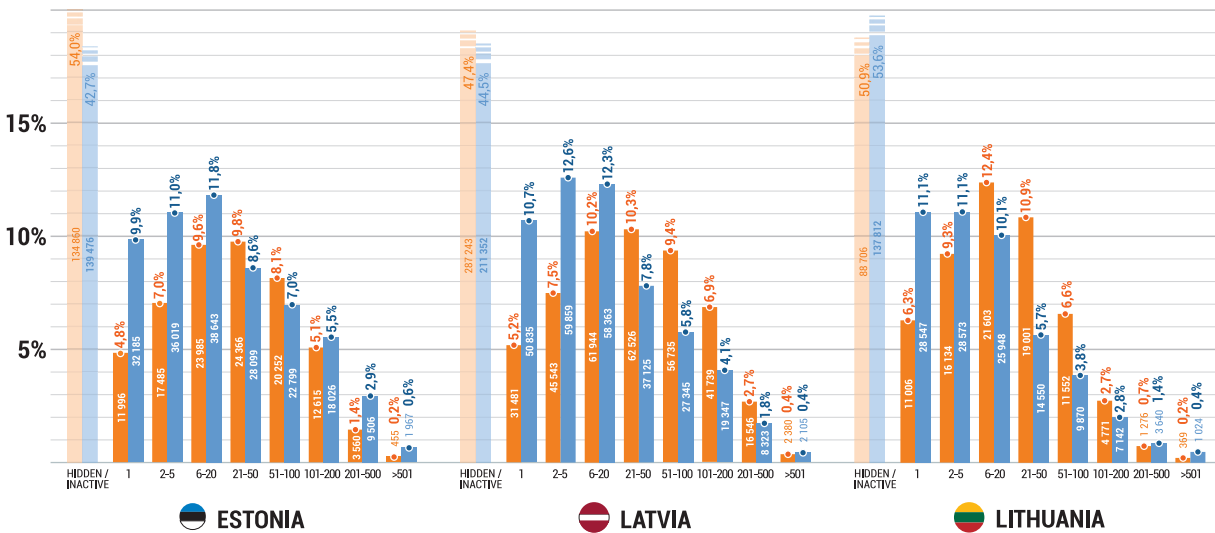


Figure 7: Distribution of the Number of Friends of VK and OK Users in the Baltic States

Of further significance, as shown in Figure 8, is the “thickening tail” found in the distribution of the number of posts—indicating the presence of extremely active users.

Turning now to the distribution of group membership, it should first be noted that more than 50% of Baltic VK users—and almost 80% of those on OK—do not publicly belong to any group. Yet, while a lot of users belong to no more than 5 groups, there are still almost 2,000 VK users in each of Latvia and Estonia, and 1,000 in Lithuania, who each have signed up to over 500 groups (Figure 9).

As the analysis of the general statistical characteristics of the sample showed, users in the three Baltic states are unevenly distributed among the networks: some of them reveal a regional preference for one or the other

## Posts

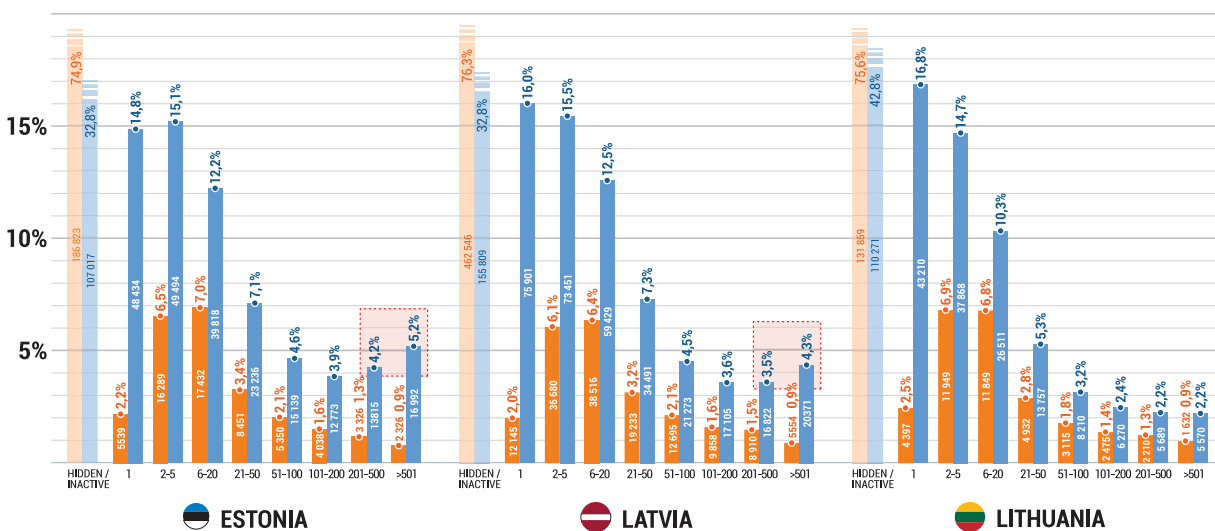
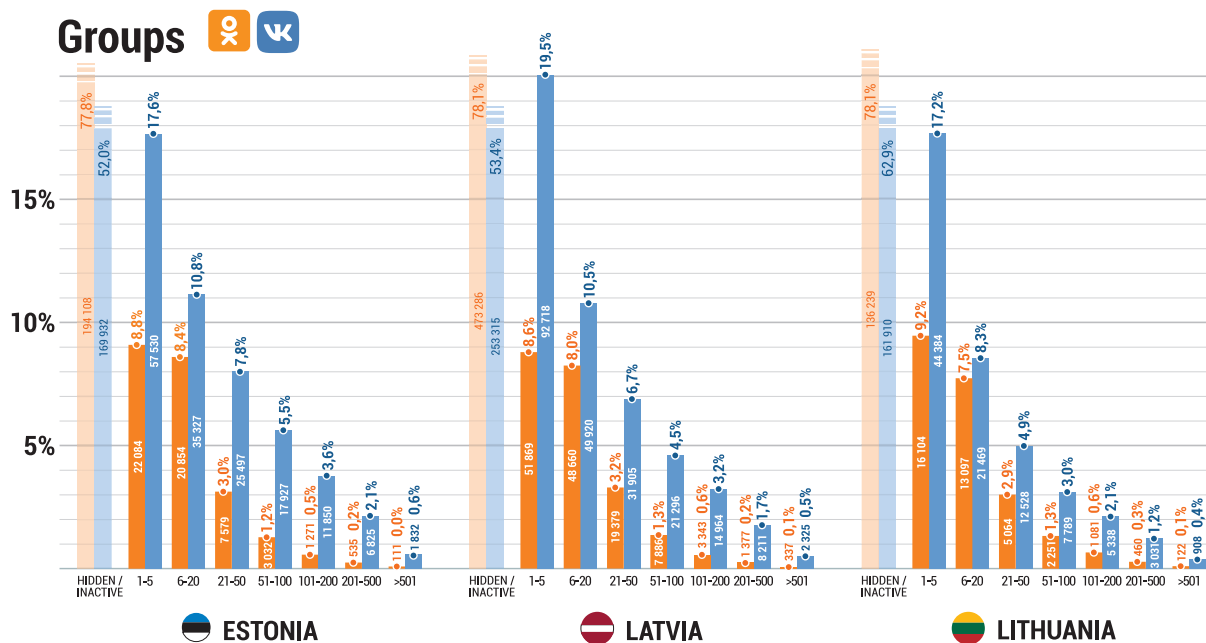


Figure 8: Distribution of the Number of Posts by VK and OK Users in the Baltic States





**Figure 9: Distribution of the Amount of Group Memberships among Baltic VK and OK Users**

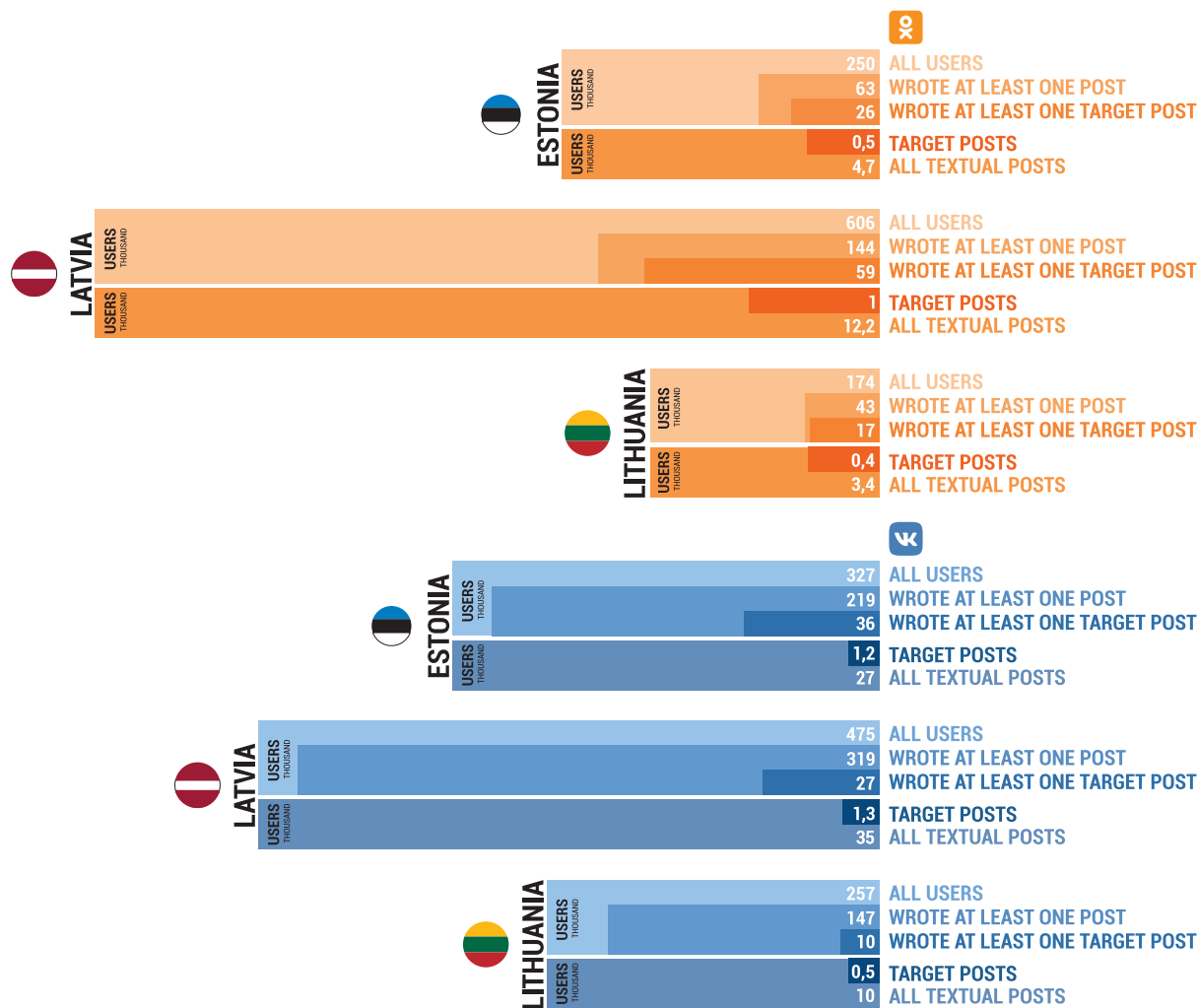
network, some have large numbers of friends or belong to large numbers of groups, and some actively publish posts or send messages to friends. At the same time, however, a significant number of users have no friends at all, belong to no groups, and write nothing.

In order to identify patterns in user behaviour, we must first define the parameters to be measured for posts, profiles, and groups. In analysing the number of VK and OK users in the Baltic states, it is important to pay attention to the differences between countries' shares of ideological users. For example, as shown in Figure 10, among active VK users in Estonia that have published at least one post since creating their accounts, 31% are ideological users compared with 28% in Latvia and 21% in Lithuania. It is further worthy of note that about 16% of VK users in Estonia belong to ideological groups; in Latvia and Lithuania, the relevant figures are 8% and 7%, respectively. The total number of ideological posts in Estonia was 1.2 million (4% of all posts), in Latvia 1.3 million (also 4%), and in Lithuania 0.5 million (5%). From the above statistics, we can conclude that among users in the three countries, VK users in Estonia are the most associated with ideological content.

The picture on OK differs slightly; among users of that network that have published at least one post, in Estonia 26,000 of 63,000 (41%) can be defined as ideological users, with similar totals for Latvia (41%) and Lithuania (around 39%). Around one million ideological posts were published in Latvia (that is, 8% of the total number of posts) while in Estonia, approximately 0.5 million (around 10%) and in Lithuania, 0.4 million (12%). About 10% of all active OK users in Estonia and Latvia belong to ideological groups, with the corresponding figure for Lithuania being 9%. Despite the relatively greater popularity of OK in Latvia, it seems probable that, in the Baltic states generally, the ideological content is created by ideological users, above all by those from Estonia.

Leaving aside differences between the three countries, the combined statistics show that about 28% of all active VK users in the Baltic have made at least one ideological post—a figure that rises to 40% for OK. A similar difference can be seen in the number of posts; only 4% of VK posts were ideological in nature, while the





**Figure 10: Statistics on Posts and Users on VK and OK in the Baltics**

percentage on OK is twice that. Analysis further shows that 70% of ideological content is generated by only 10% of users. There are moreover twice as many such users on OK than on VK, and they are more active as well. That said, about 11% of all VK active users (compared with 8% of those on OK) belonged to ideological groups. It is important to note that it was not possible in this study to determine whether or not a particular post was sponsored or not; accordingly, it is assumed that all the posts analysed here were created, distributed, and read by users without any influence of sponsorship or placement from the network itself. In this study, we have also included automated accounts (bots), as they are part of the information environment nowadays.

The analysis of the statistical sample shows that despite the significant differences among countries and social networks, there is a distinct group of active users that create ideological content. In order to understand more completely the structure and dynamics of user behaviour and content distribution, however, it is necessary to look at each social network and its specific characteristics separately.



# V. VKONTAKTE (VK)

In this section, the following topics are analysed: the dynamics—and relative popularity—of ideological posts; the clustering of and interrelationships among ideological users; the rhetoric of ideological posts; and the thematic association of these posts with the macro topics identified earlier.

In considering the dynamics of ideological posts as shown in Figure 11, special attention should be paid to the increased growth rate at the end of 2013 (on the eve of Russia’s military aggression against Ukraine and the growth in information operations against the West), as well as recurring peaks each May.

It is valuable to consider the dynamics of these posts on VK more specifically in the context of the macro topics chosen for this study. For a more convenient comparison, the data on posts has been normalised to the number of VK active users. Among other interesting findings, this normalised analysis indicates that even though the absolute number of posts from users in Lithuania is lower, the relative activity of users in that country is higher.

As seen in Figure 12, very pronounced peaks in activity on the macro topic of World War II (in Russian, “The Great Patriotic War”) occur each May, around the time that so-called Victory Day (May 9) is celebrated in Russia and in the majority of Russian-speaking communities in the former Soviet Union. VK discussions on this topic are intensive in all three Baltic states, especially in Estonia. It is noteworthy that these peaks actually tend to begin in April—thus indicating a certain amount of preparatory activity, orchestrated by pro-Kremlin activists online. It is also important to stress that these peaks became even greater beginning in 2014, that is, we can observe a certain artificial element in the way in which this topic was inserted into online discussions.

While the topic of the Second World War only periodically resonates in social network discussions, topics related to Russia in general—whether about current events, politics, or the country’s society as a whole—are constantly discussed by VK users in the Baltic states, as shown in Figure 13.

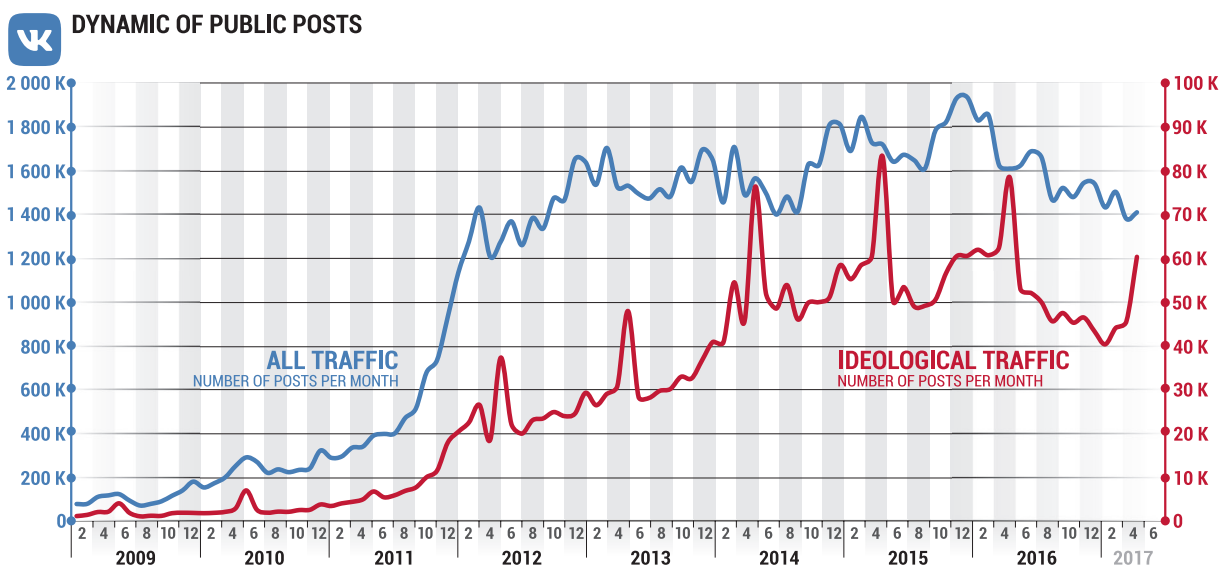
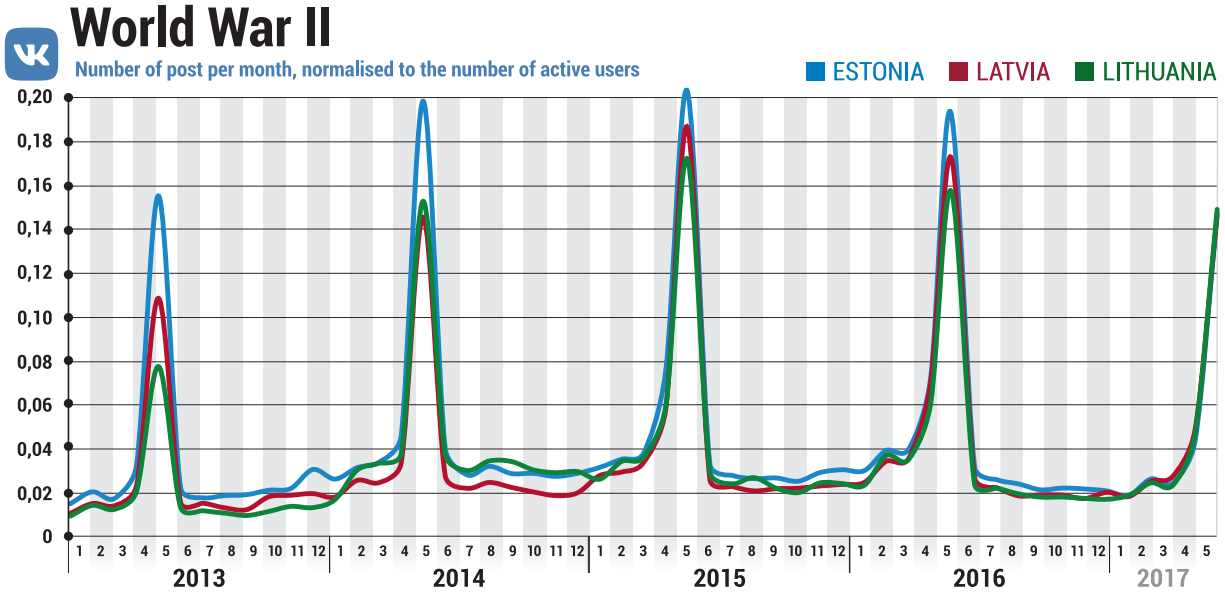


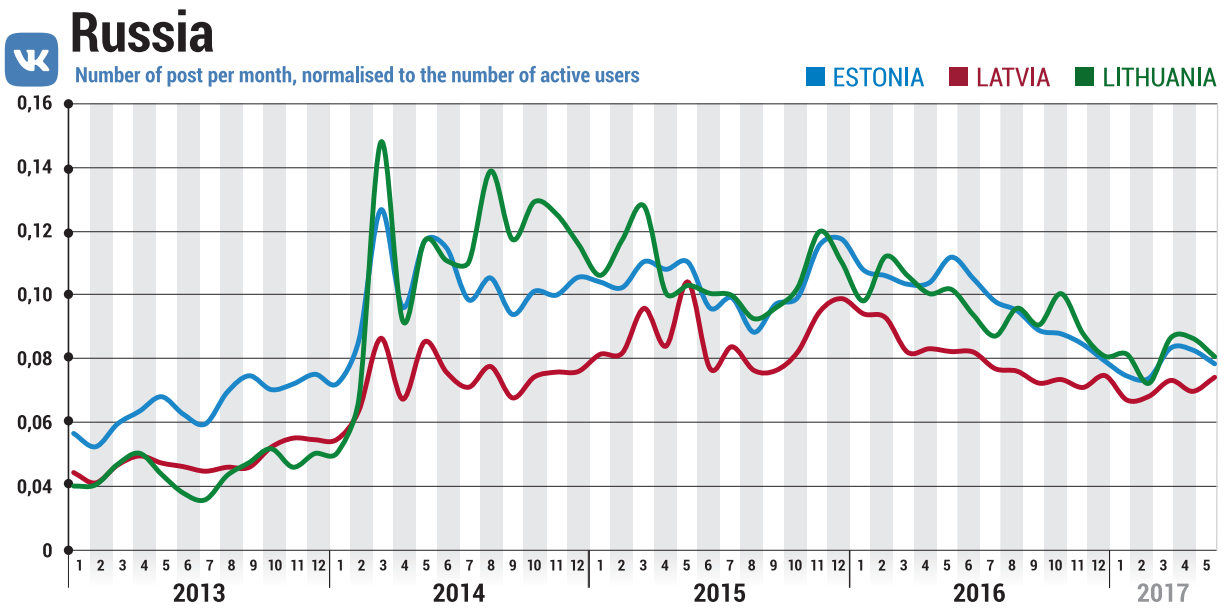
Figure 11: Dynamics in Ideological Posts on VK in the Baltics





**Figure 12: Dynamics of VK Ideological Posts on VK in the Baltic States on the World War II Macro Topic**

Although there has been a slight decline after the rapid initial rise in 2014, discussions related to Russia continue to take place at a fairly intensive level in all the Baltic states, with smaller peaks occurring in each country due to local events and media coverage. For example, in autumn 2014-spring 2015, the Russia macro topic was discussed relatively more frequently by Lithuania-based VK users than by those in Estonia or Latvia. This is due to the non-permanent seat on the UN Security Council then held by Lithuania, a position from which Vilnius was able to take a very strong critical position on Russia—as frequently cited by Russian-language media sources. It is noteworthy that the subject of Ukraine dominated Russian-language discussions especially in Lithuania (see Figure 14), a country which—as is well known—provided visible and active support to Ukraine. However, this



**Figure 13: Dynamics of Ideological Posts on VK in the Baltic States on the Russia Macro Topic**



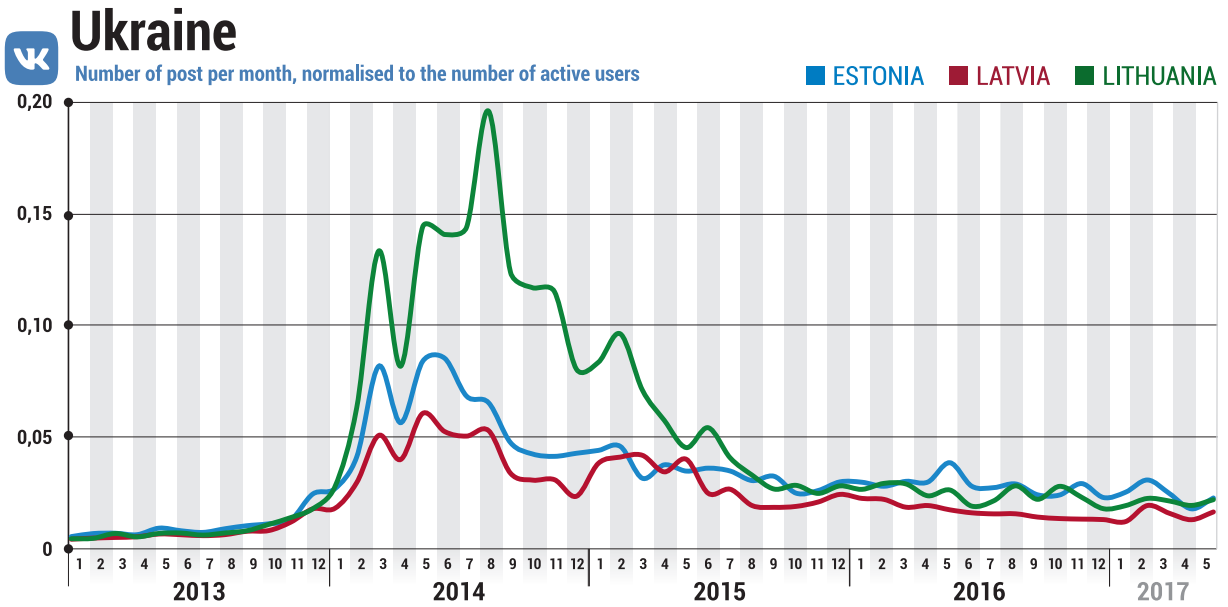


Figure 14: Dynamics of Ideological Posts on VK in the Baltic States on the Ukraine Macro Topic

active support fueled discussion on VK for the most part only at the time of the most dramatic events in Ukraine, which took place at the beginning of 2014. As shown in the graph, discussions have subsequently decreased significantly in intensity—almost back to the levels seen in 2013 and earlier.

Despite the ongoing military conflict and other important developments (from elections to socioeconomic changes and efforts to enact political reforms) in Ukraine, the public’s fatigue regarding this topic is clear—but this is not a specific characteristic of the Baltic audience, but rather part of a general trend in all of Europe. An even clearer relationship between trends in VK posts and real-world developments can be found on the topic

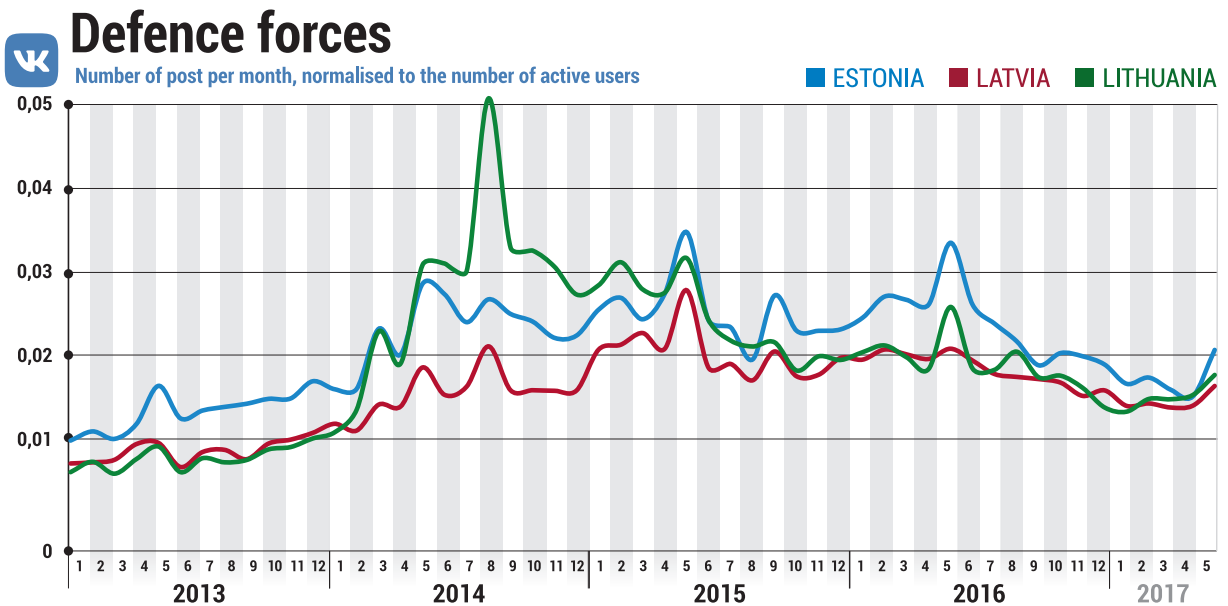
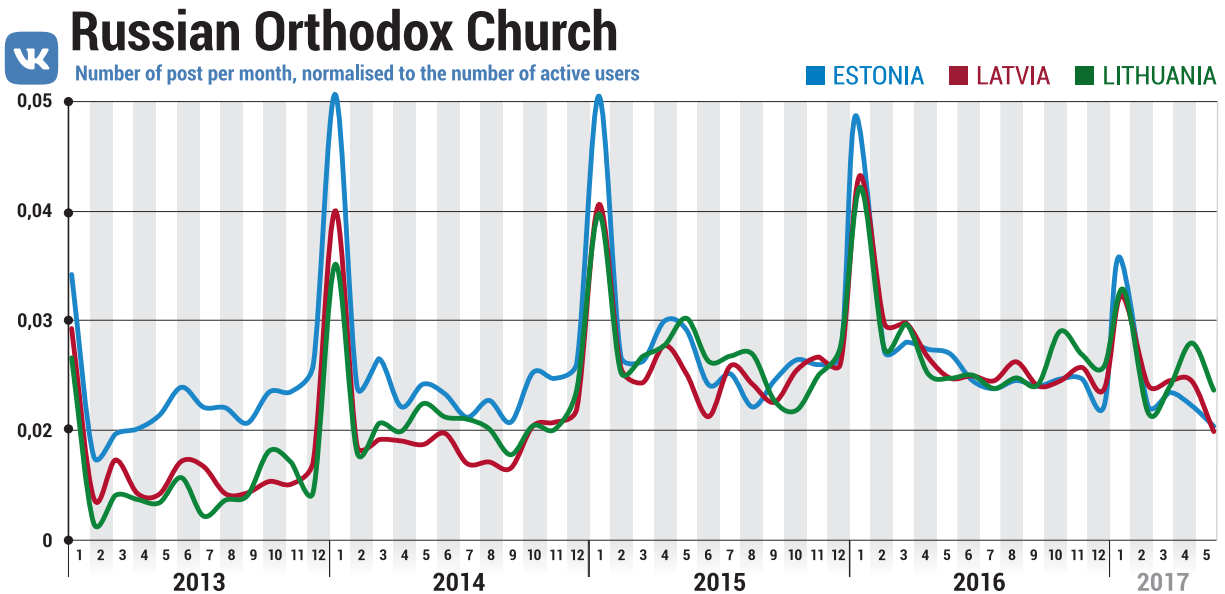


Figure 15: Dynamics of Ideological Posts on VK in the Baltic States on the Defence Forces Macro Topic





**Figure 16: Dynamics of Ideological Posts on VK in the Baltic States on the Russian Orthodox Church Macro Topic**

of national defence in the Baltic states. It is notable that the subject became more frequently discussed since spring 2014 (as seen in Figure 15) when it became increasingly common to talk about the need to deploy troops from NATO allied forces in the Baltics. As far as individual country breakdowns are concerned, Lithuanian users of VK began debating the topic more intensively in August 2014, when the widely-covered battle for Ilovaisk was taking place in Ukraine.

A second peak can be seen in Lithuania in February 2015, when the Lithuanian government was deciding to reinstate conscription. Elsewhere in the Baltics, peaks are due to regular military activity: For example, the annual Siil [“Hedgehog”] 2015 and Kevadtorm [“Spring Storm”] 2016 Estonian military exercises were a major reason for the more intensive discussion of defence topics by VK users in May of both years.

A remarkable degree of regularity can also be observed in discussions of other macro topics. For example, the Russian Orthodox Church topic and related subjects are strongly associated with religious holidays, especially among VK users in Estonia (Figure 16).

Even though the VK user base is relatively young, USSR-related topics still occupy a defined niche, and are discussed quite intensively by Russian-speaking users (see Figure 17). A notable spike occurred in spring 2014, with discussions on the topic becoming more frequent by a factor of three over the period 2013–17.

More generally, in comparing the relative popularity of all of the macro topics among VK users in the Baltics—see Figure 18—we should note that all topics related to Russia were discussed more intensively, including the topics of propaganda distribution, information influence, and the World War II. The topic of Ukraine prevailed more in discussions in Lithuania, while as might be expected the topic of non-citizens was discussed more often in Latvia and Estonia.



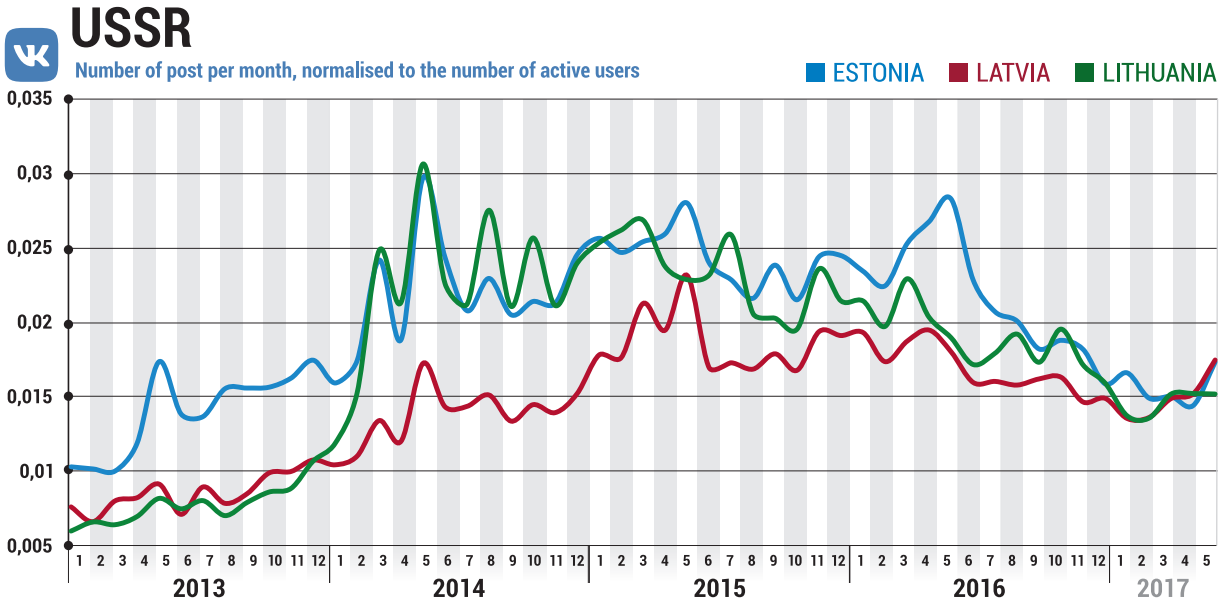


Figure 17: Dynamics of Ideological Posts on VK in the Baltic States on the USSR Macro Topic

Looking more closely at the age and gender distribution of posts on the macro topics, the analysis shows that on average, men (with a 54.5% share) discuss them more often than women (45.5%) a difference that is more substantial on the NATO Allies topic (with men responsible for 57.9% of posts, and women 42.1%). The most active age group in discussing the macro topics is those born between 1990 and 1999, with a share of 38.3%.

In order better to understand whether there are any specific characteristics of the creation and distribution of posts on these—or other—macro topics, an analysis of user behaviour was conducted. As shown earlier in

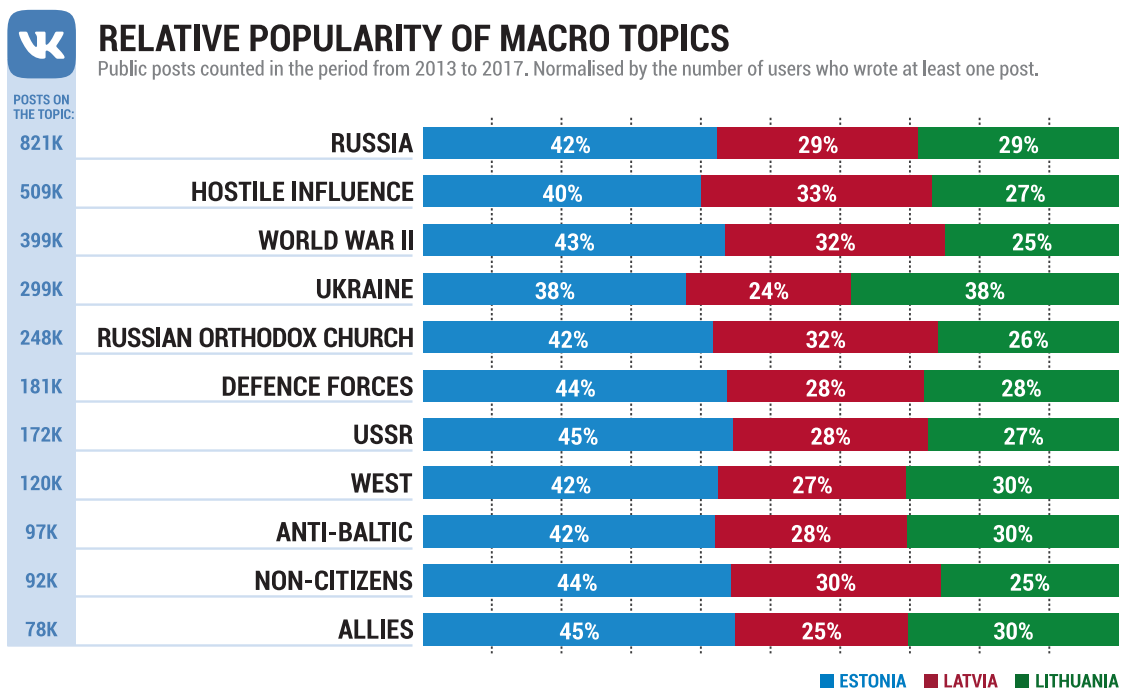
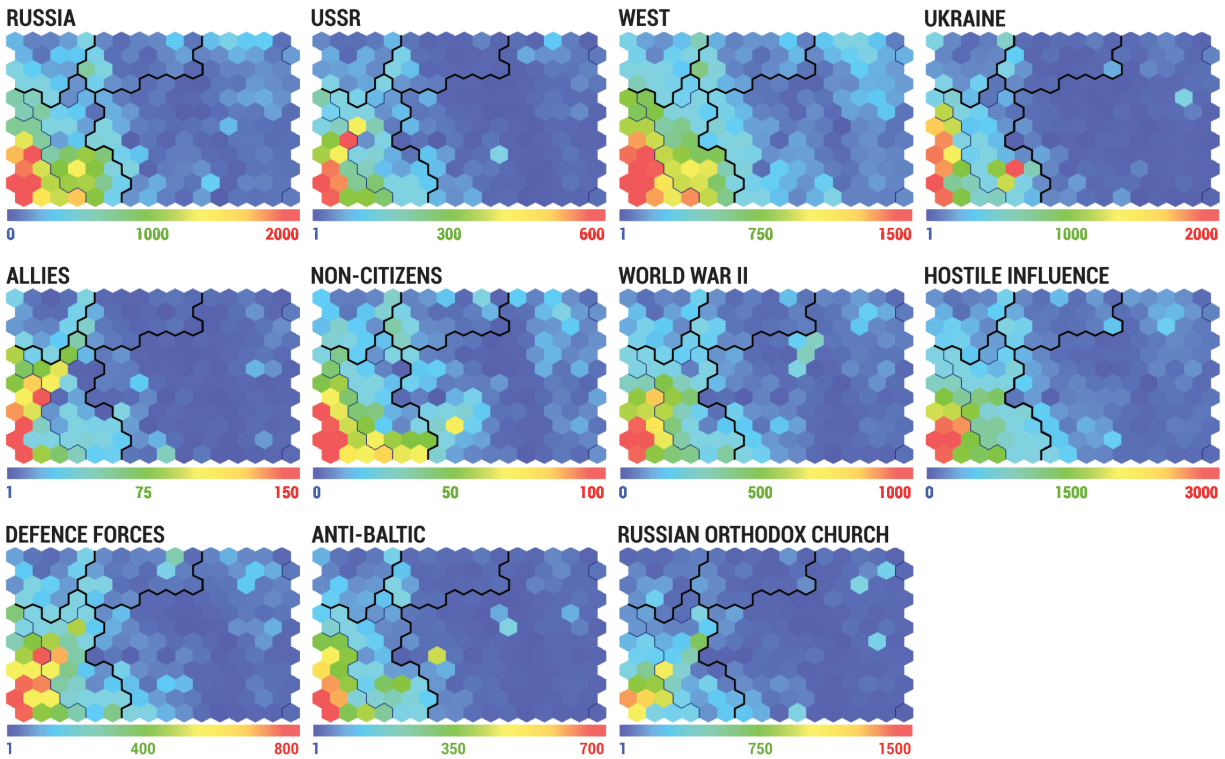


Figure 18: Relative Popularity of Macro Topics among VK Users in the Baltic States





**Figure 19: Clustering Analysis of the 2,000 Most Active Ideological Users on VK—by Macro Topic**

the discussion of user characteristics, the study sample is fairly heterogeneous—thereby raising a number of questions, in particular:

- Whether discussions on all of the topics take place in the same way (for example, whether they consist mostly of original postings, or of reposts from friends or from groups).
- Whether there are particular individuals who write much more than others; that is, whether “content generators” are the main channel of disseminating ideological information.
- Whether there are groups of users that play a notable role in generating and spreading ideological content, perhaps because of their large number of friends.

Our analysis of user behaviour aims at answering these questions by means of clusterisation—in particular, the neural network classification of Kohonen,<sup>xvi</sup> a method that allows one to uncover hidden data patterns while determining how many clusters into which a given sample should be divided. The results are visualized as a set of maps that can be interpreted as follows:

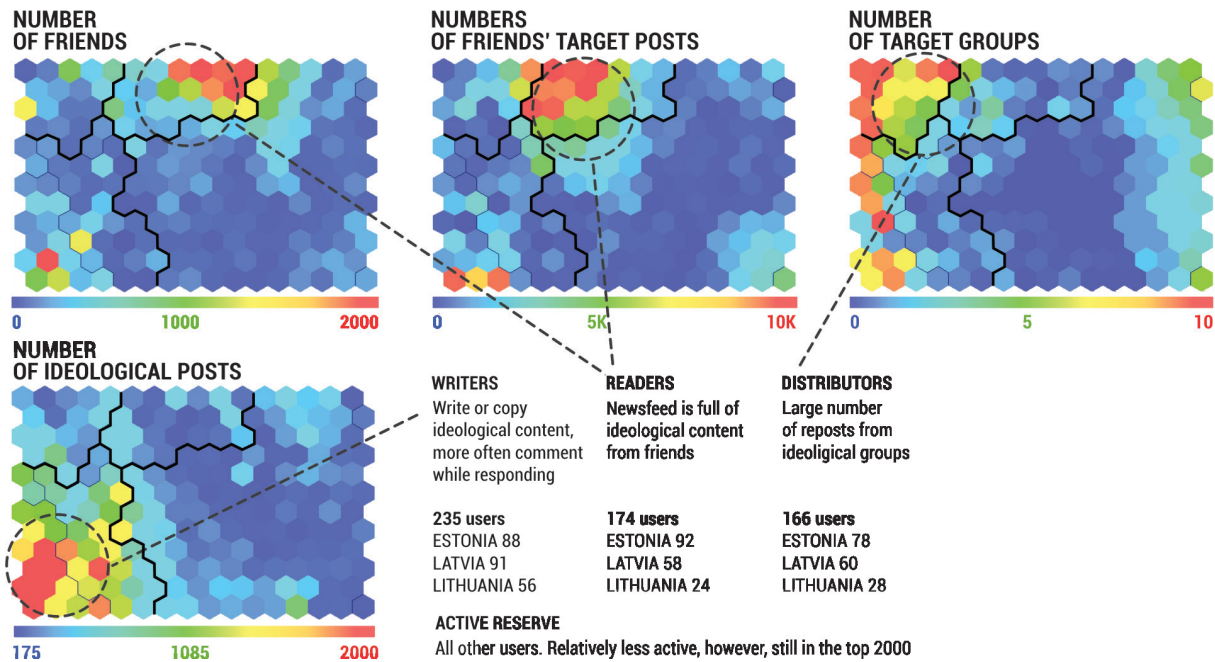
- Each map is a visualisation of one particular aspect of the profiles whose data is used for clustering.
- Each hexagonal cell contains a certain number of profiles.
- Each profile occupies the same location on all of the maps.

The colour of the hexagonal cells indicates their numerical value according to the aspect being measured on that map (as indicated in the scale at the bottom).





## USERS' POSTING BEHAVIOUR



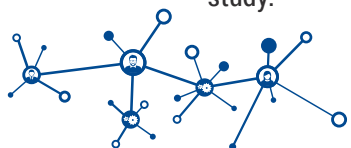
**Figure 20: Clustering Analysis of the 2,000 Most Active Ideological Users on VK—by User Behaviour**

Since no prior assumptions (whether regarding the number of clusters or the precise characteristics of user behaviour) were made before the analysis was conducted, it is important to compare the clustering results across different social networks in order to validate and best understand the results obtained. It should be noted that only the most active users (that is, those who published at least one post per week) were included in the experimental sample. The following aspects of each user profile were chosen for clustering: Number of online friends; Number of ideological posts; Number of ideological groups joined; Number of ideological posts on the user's wall; Number of ideological posts on the walls of the user's friends.

After a series of experiments using the VK network as a base, a set of maps was compiled, with one for each macro topic (Figure 19). The maps should be analysed as a whole, since only in this way we can compare the same user's behaviour on different topics. Cluster analysis consists of ordering objects into relatively homogeneous groups. The maps allow one to easily interpret the results visually, as similar objects are placed next to each other

Based on the clustering analysis of user profiles, it was possible to identify four types of ideological users on VK, which we call *Writers*, *Distributors*, *Readers*, and *Members of the Active Reserve* (Figure 20).

Upon more detailed examination of the particularities of each cluster, it was most striking that the Writers cluster (about 12% of the total) generated a significant majority of ideological content (more than 70%). On average, profiles from this cluster create two or three posts a day, while the other ideological users post at most once every three to four days; in addition, Writers also posted comments far more often. A typical Writer has around 50 friends. As can be seen in Figure 19, Writers typically post on all of the macro topics covered in this study.



The next-largest group is the Readers cluster (9%) whose news feeds primarily consist of messages from friends (on average, five public posts per day). Readers have more friends than users in the other categories—about a thousand for the typical Reader, or almost half among others in the sample. In comparison to Distributors, they are oriented more towards information consumption than towards dissemination.

Distributors are similarly small in number (around 8%); these are the users who most frequently re-post ideological content from groups. It is notable that around half of these groups are connected to users from this cluster. On average, the typical Distributor belongs to eight groups. They have fewer friends than other users except of Writers (around 200, or slightly more than 10% of the total) though they focus on collecting ideological information from the relevant groups and passing it on further.

The majority of users in the experimental sample (more than 70%) are Members of the Active Reserve, a name chosen because they are, in principle, able to migrate to other clusters marked by more active behaviour. Even “reservists” still published at least one ideological post per week on average. Thus, given their large number, users from this group still made a significant contribution to the formation of public opinion on the topics covered by this study.

In the national context, we can see that Writers are relatively more common among VK ideological users in Latvia and Estonia (see Figure 21). We can also note that the Readers, Writers, and Distributors groups are nearly equal in number in Estonia, while in Latvia and Lithuania the Writers are relatively more dominant.

In order to dive more deeply into the question of how ideological content is spread, graphs were created to display the connections of the most ideologically-active VK users. More specifically, the graphs were designed to test the following methodological descriptions:

- Users can communicate if they are friends on VK (direct communication), with the strength of communication determined by the number of common friends.
- Users can communicate if they have at least one common friend, even if they are not themselves friends with each other (communication through friends).

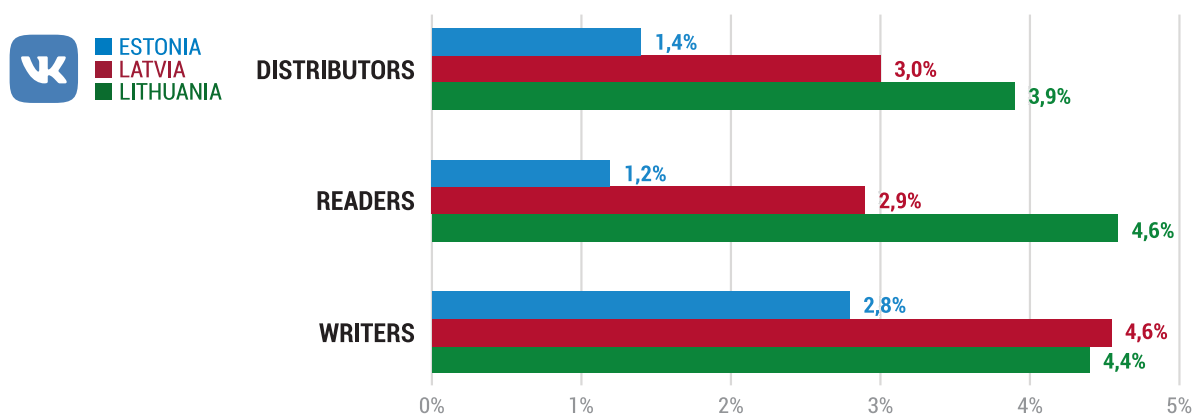
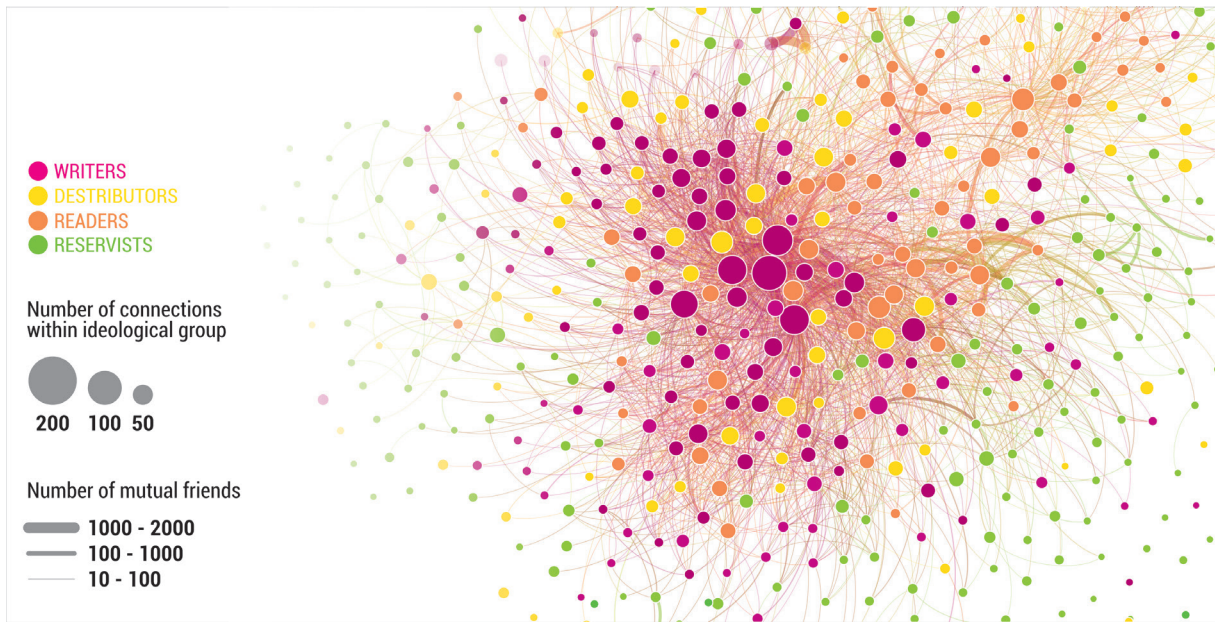


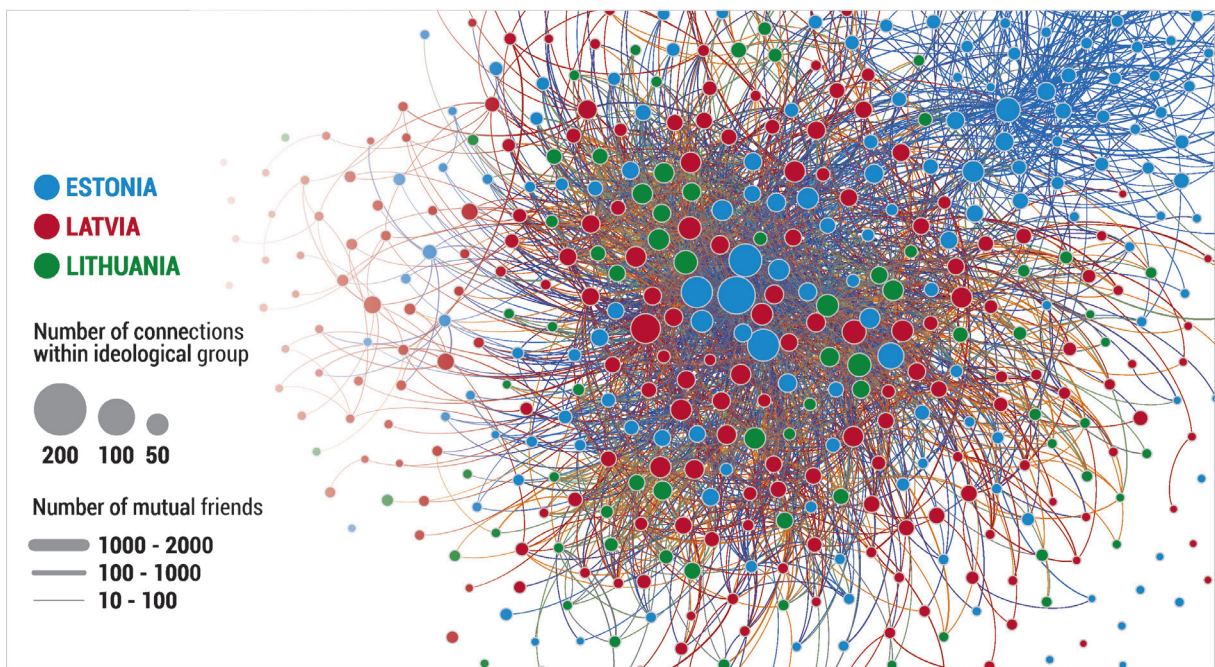
Figure 21: Percentage Share by Cluster of the 2,000 Most Active Ideological VK Users in the Baltics





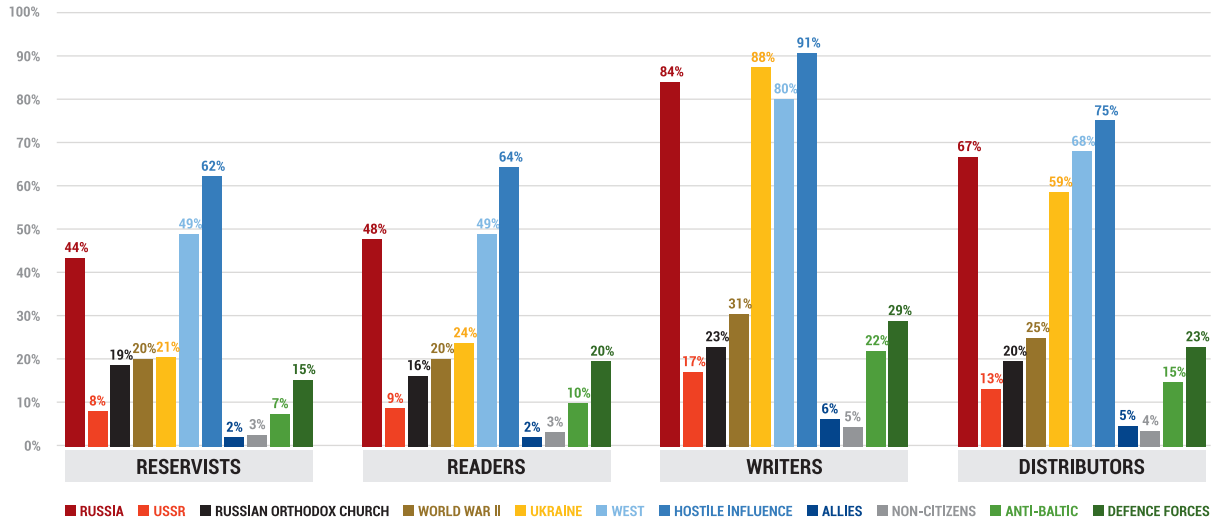
**Figure 22: Connections Graph by Cluster of the 2,000 Most Active Ideological VK Users in the Baltics**

After a series of experiments exploring different types of communication, it was determined that the second type—connections through friends—was more influential in group formation. The Writers cluster clearly occupies a central position on the connections graph, as shown in Figure 22. The fact that these nodes are the strongest—that is, characterised by the largest number of connections (including implicit links)—answers the question of how ideological information is created and disseminated. Ultimately, the Writers are the main channel for disseminating information, though not so much directly as through a network of mutual friends.



**Figure 23: Connections Graph by Country of the 2,000 Most Active Ideological VK Users in the Baltics**





**Figure 24: Distribution of Macro Topics by Cluster of the 2,000 Most Active Ideological Users on VK in the Baltics**

It is noteworthy that the four largest circles in the center of the countries graph (Figure 23) are formed by users from Estonia with a large number of friends (between 3,000–7,000) whose activity began in 2014. During the period under review, these users created a total of about 48,000 ideological posts (i.e. an average of 3–13 per day). Their posts are frequently liked (with posts collecting from 2,000 to almost 70,000 likes during the study period) and reposted (from 1,000 to 20,000 reposts).

Compared to their counterparts in Estonia, the exploits of the most active ideological users in Latvia are more modest. The four most active users published a total of 7,000 posts, with the average receiving around a thousand likes, and with repost counts ranging from 38 to 1,056. In Lithuania, users were even less visible. It is also significant that the macro topics are distributed quite unevenly within the user clusters. Writers, as we see in Figure 24, were most interested in the following macro topics: Hostile Influence, Russia, Ukraine, and the West. This indicates a definite connection with the narratives generally cultivated by pro-Kremlin propaganda, as identified by several independent researchers.<sup>xvii</sup>

Among Distributors, after Hostile Influence, the most common topics were the West, Russia, and Ukraine, with the picture being similar for the Readers and Members of the Active Reserves clusters.

Turning to the connections among ideological VK groups—which can be analysed by comparing the number of reposts by Baltic users—it appears that most such groups have a pro-Kremlin, pro-Russian, or anti-Western orientation, as shown in Figure 25. Being hubs of like-minded users, these groups are informational reservoirs, where users discuss topical, biased news and can find misinformation on any particular issue. The common rhetoric is often aggressive, toxic and imperialistic. Such groups often feature dense internal interconnections (as evidenced by the size of the circles) and are tightly interconnected with each other given the large number of common members (as indicated by the thickness of the lines between the circles).

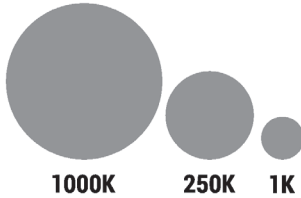




THEMATIC ORIENTATION

- PRO-WESTERN
- PRO-RUSSIAN
- RELIGIOUS

Number of connections within ideological group



Number of mutual friends

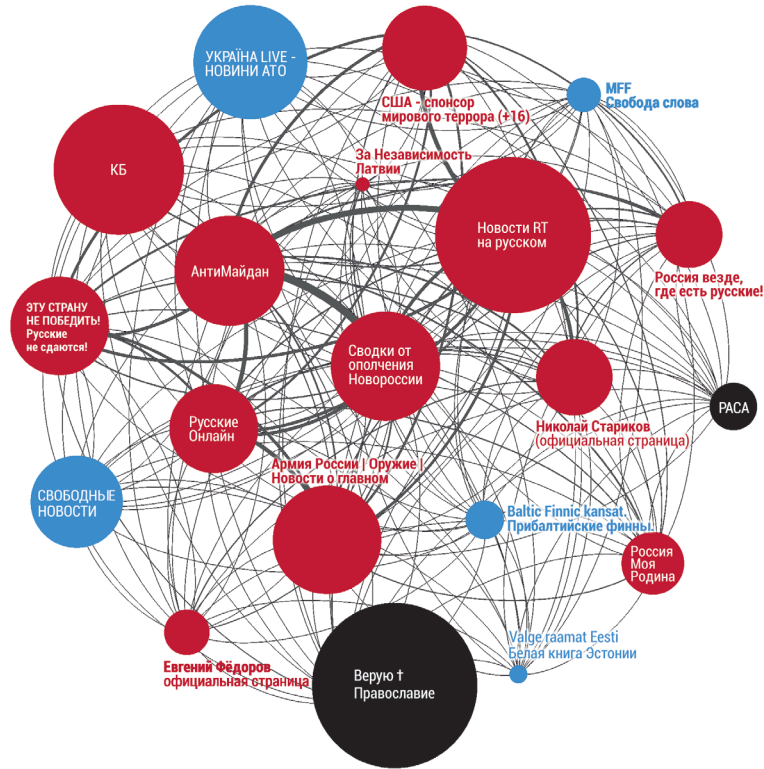


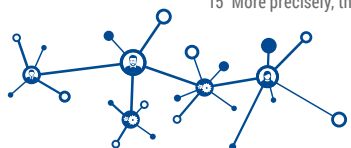
Figure 25: Connections of VK Ideological Groups

After analysing the dynamics, structure, and links between public user profiles and open groups, as well as the ways in which ideological content is created, distributed, and consumed, it is important to investigate the rhetoric used in public posts, as well their thematic associations with terms used as markers of public opinion.

In analysing posts and searching for associations, a set of concepts were used including words such as war, propaganda, defence, allies, security, army, veteran, non-citizen, president. The set also includes the names of countries (Russia, Estonia, Latvia, Lithuania, and Ukraine) and international organisations (NATO, the EU). Neural network analysis and distributive semantic methods were used to determine the context in which these terms were used (e.g. with which other words the terms were most frequently used together.) The analysis showed that rhetoric on VK public posts is clearly pro-Russian when it comes to the topics of Ukraine and Russia (which in some cases represents over three-quarters of all content). Pro-Russian rhetoric also dominates discussions on the topic of propaganda, as shown in Figure 26. Pro-Russian propaganda is also reflected in attitudes held towards the Baltic states—with users in Lithuania last year employing a particularly striking amount of pro-Russian rhetoric in discussing the three states.

As for associations, “Russia” was most often used in connection with the situation in Ukraine, just as the term “Ukraine” was most often found together with the quasi-formation called “Novorossiya”. “Propaganda” was used most frequently in conjunction with pejorative terms such as “Nazi” and “Goebbels.”<sup>15</sup> Terms such as “Allies”, “veteran,” and “war” appeared most often in the context of the Second World War, while at least in Latvia and Estonia, “European Union” was often described as “anti-Russian”. The word “president” was most often used in connection with Putin, with no significant use to refer to the local political leaders of any of the Baltic states.

15 More precisely, the term is an adjective in Russian and can also be rendered “Goebbels-ist” (translator’s note).



■ PRO-RUSSIAN  
■ PRO-WESTERN

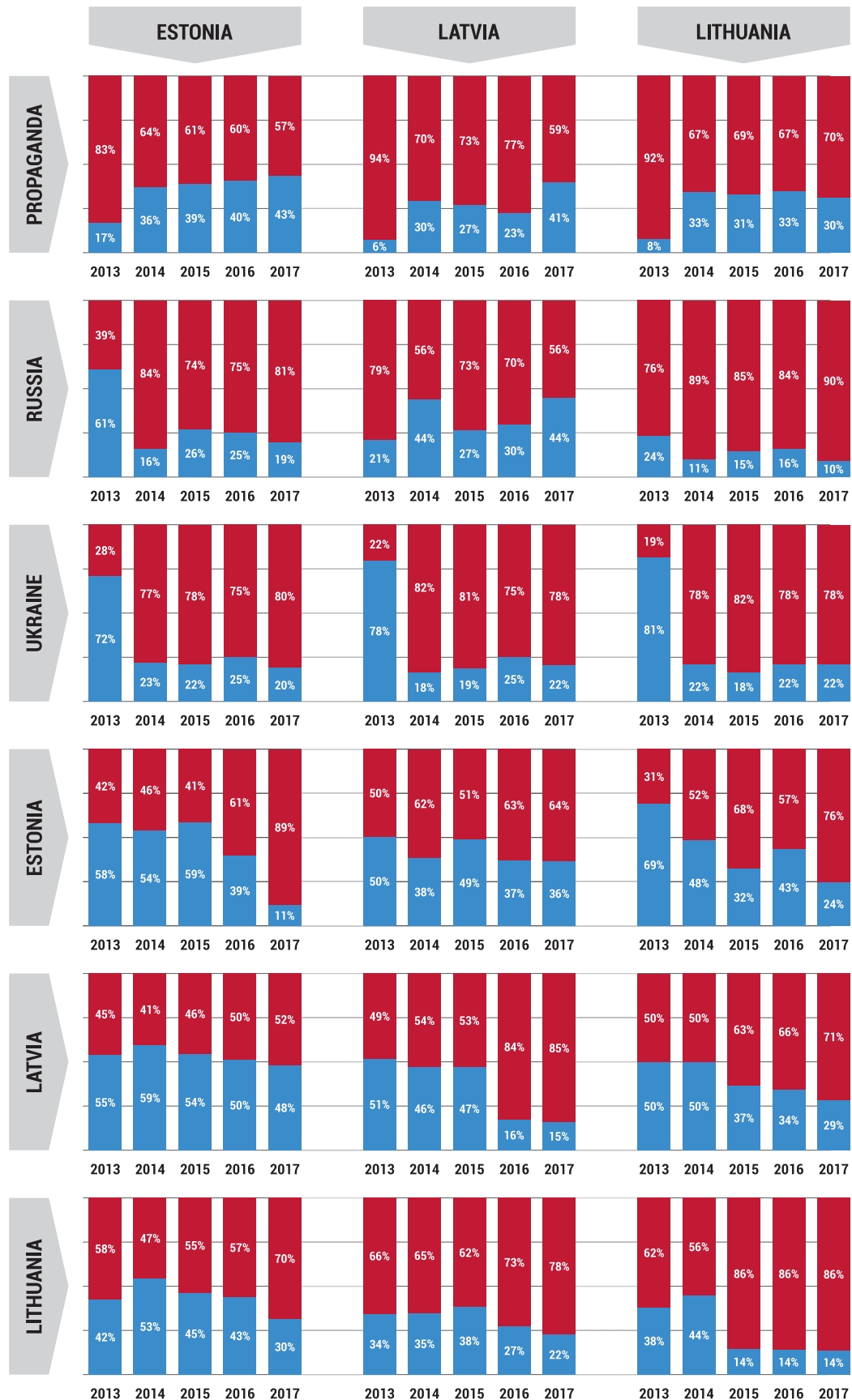


Figure 26: Rhetorical Orientation of VK User Posts Regarding the Baltic States



# VI. ODNOKLASSNIKI [“CLASSMATES”] (OK)

As mentioned above, OK has distinct characteristics that set it apart from other social networks in the Baltic states, notably including its relative popularity among some groups of users in certain regions. In this section, analytical results are presented on the following aspects: clusterisation of ideological users, relationships among ideological users, connections among ideological groups, and thematic associations of the study's macro topics.

Clustering analysis of OK was conducted with a narrower and more filtered sample of 500 users, as there were fewer ideological users of the network than of VK. Nevertheless, the result presents a similar picture: distinct clusters of Writers, Distributors, Readers, and Members of the Active Reserve can be identified—as shown in Figure 27. That said, there is one noteworthy difference with VK: On OK, a separate Religious user cluster is also present.

The dimensions and characteristics of OK clusters are generally similar to those seen on VK, albeit with some exceptions. Writers account for 6% of the OK sample (two times less than in the figure for VK), and are less active—generating just over half of all ideological content; the corresponding statistic for VK is over 70%. Writers on OK also have fewer friends on average, meaning that the opportunities to spread information via the network are relatively limited.

That said, Distributors—which represent 15% of the OK ideological users sample—have significantly more friends (over 60%—a figure that highlights the most noteworthy difference between the VK and OK samples.) uReaders,

## USERS' POSTING BEHAVIOUR

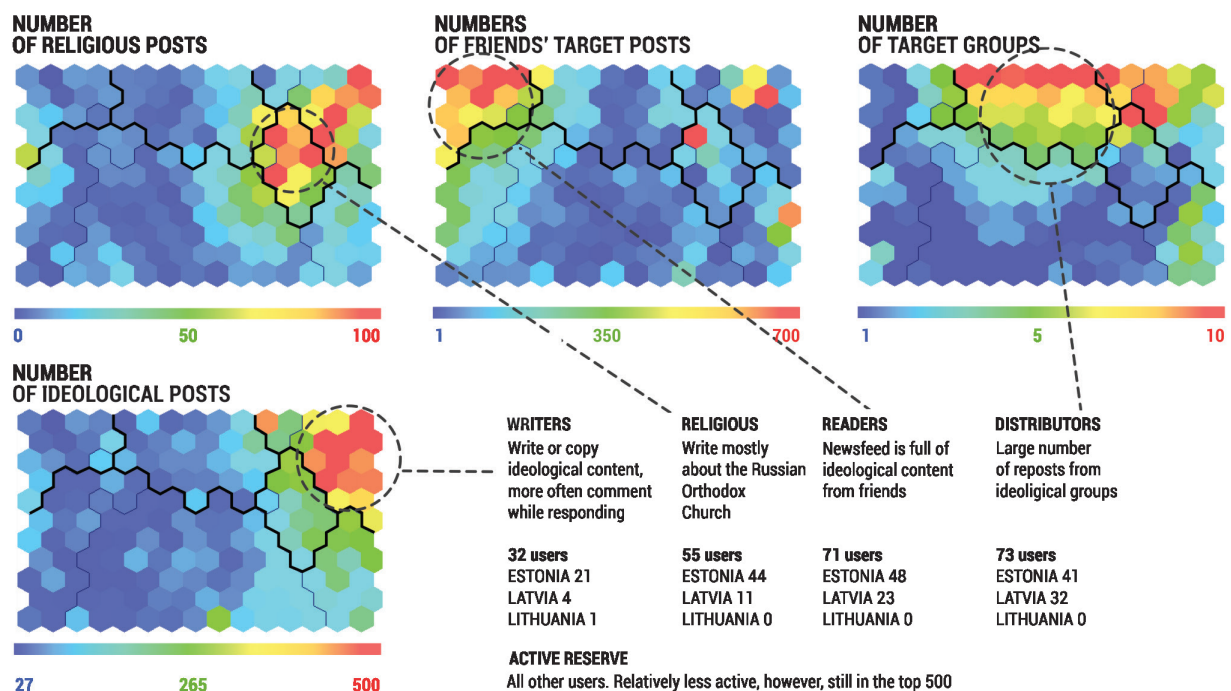
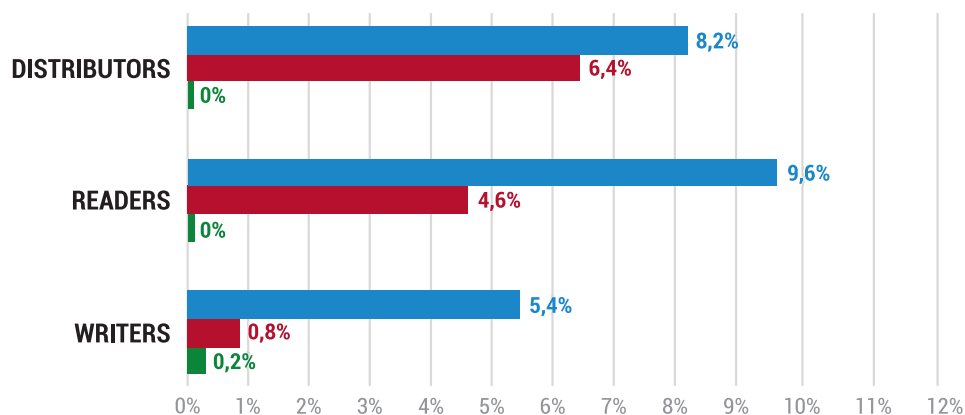


Figure 27: Clusterisation of the 500 Most Active Ideological Users on OK—by User Behaviour





**Figure 28: Percentage Share by Cluster of the 500 Most Active Ideological OK Users**

14% of the OK sample, are also more active than those on VK; ideological posts account for more than 90% of posts on their walls. As for Members of the Active Reserve, they make up 65% of OK ideological users, slightly less than on VK (71%).

As far as differences among countries are concerned, it is interesting to note that while all behaviour types were present in the Estonian sample (as with VK), this time the Writers and Distributors groups predominate (Figure 28). In Latvia, the Distributor group is best represented—in other words, ideological users of OK based in the country mainly use the network to repost information from ideological groups. (Lithuania is virtually unrepresented in the OK user sample).

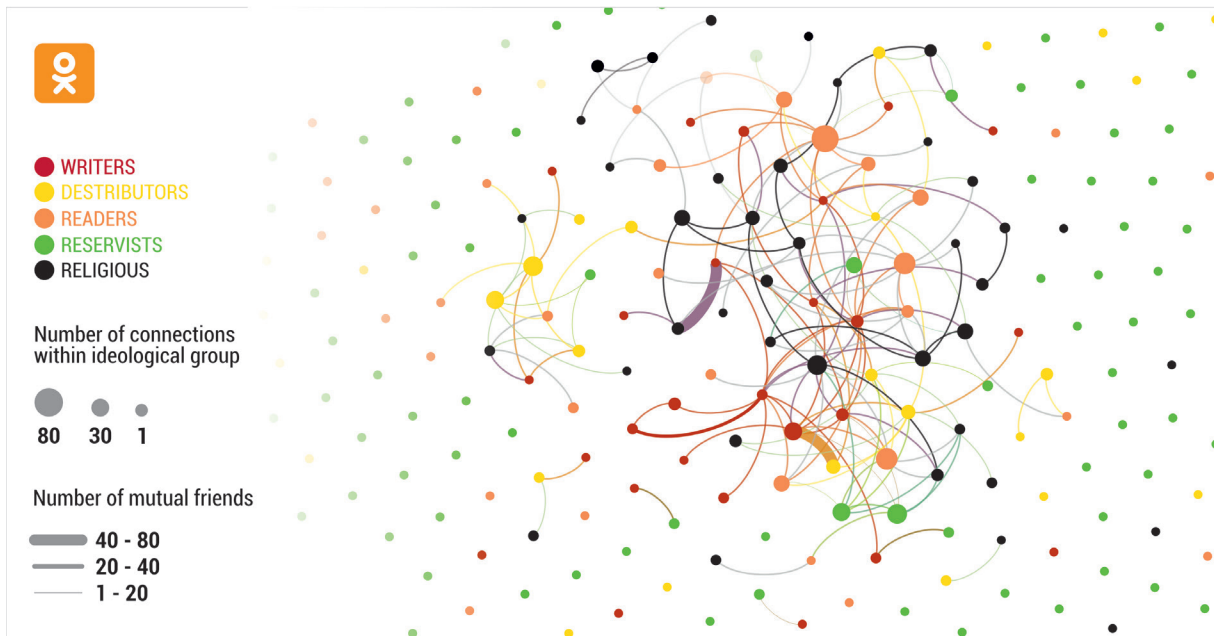
The results of comparative analysis of the results of user clusterisation among VK and OK users in the Baltic states allows us to conclude that the above-identified behavioural user types are stable. It is especially important to stress the existence of two separate categories—Writers and Distributors—thereby contradicting the generally accepted hypothesis that content creators are the main channel for disseminating information.<sup>xviii</sup> It is likely that many of the ideological users who form the Writers cluster on VK and OK are quite committed to their work, given that on average they create three ideological posts per day (with the most productive among them publishing more than 10 per day [!]).

We should further stress that the Writers cluster on OK generated ideological content on a wide spectrum of the macro topics, without giving special preference to any particular topic. Thus, it is possible to conclude that they have no emotional or personal (that is, in terms of values and views) connection to any specific topic, but instead that there are other, non-political/ideological factors at play—possibly material in nature. It is important to mention that the average length of the post of the active user entering the Writers cluster is 832 symbols, which is three times longer than the public post from the average user. Presumably, users in the clusters “Distributors” and “Readers” are moved more by intangible incentives.

Here, the graph of user connections is less informative than that of the VK sample, due to the smaller size. As noted above, we can however identify a distinct group that is not present on VK: a cluster of interconnected users actively promoting religious themes (Figure 29). From this figure, we can note that both Writers and



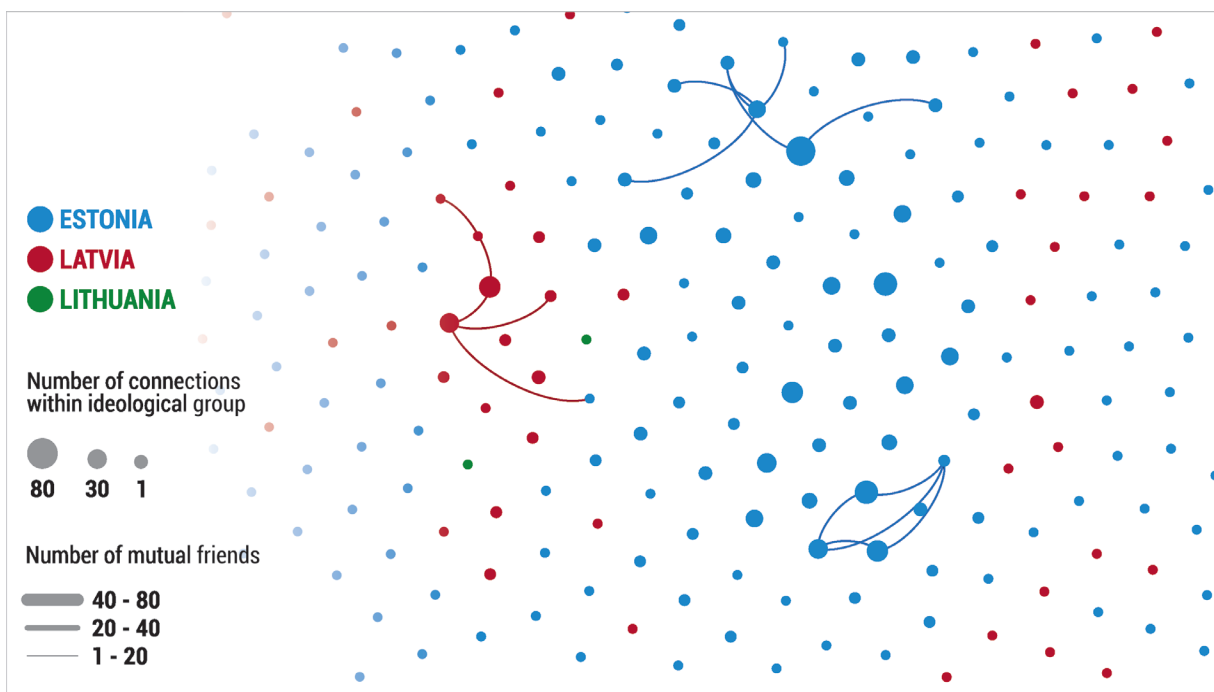




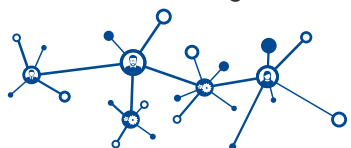
**Figure 29: Connections Graph by Cluster of the 500 Most Active Ideological OK Users**

Distributors are strongly linked through friends. Among the most discussed macro topics were Ukraine, the West, and Hostile Influence.

From a geographic point of view, ideologically-active users from Estonia form a tightly-connected node in the connections graph by country, while connections among users in Latvia are much sparser (Figure 30). Only a



**Figure 30: Connections Graph by Country of the 500 Most Active Ideological OK Users in the Baltics**

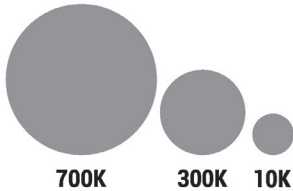




THEMATIC ORIENTATION

- PRO-WESTERN
- PRO-RUSSIAN
- RELIGIOUS

Number of connections within ideological group



Number of mutual friends

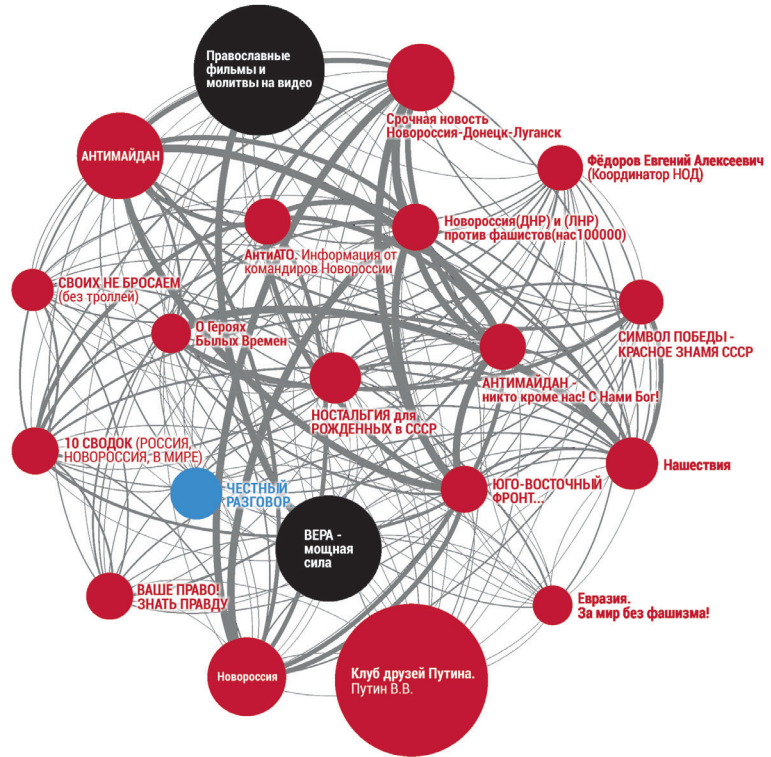


Figure 31: Connections Among Ideological Groups on OK

small number of users in Lithuania—a country where, as noted above, the social network is very popular—was included in the OK sample.

The average OK ideological user is over 50 and began his or her activity on the site in 2014. During the period under review, the two most active ideological users in Estonia published about 6,000 ideological posts, with two similar users in Lithuania creating about 1,100. The typical active user in Lithuania is even older—around 60 years of age—and started using the site in 2015; the average number of total posts is around 100.

As for the connections among the ideological groups on OK—which as with VK were analysed by comparing the number of reposts by Baltic users—it has been shown that, much as with VK, groups on OK have a very pro-Kremlin, pro-Russian, or anti-Western orientation (Figure 31). Such groups are very closely interlinked, as evidenced by the size of the relevant circles, and are also tied together by common friends, as indicated by the thickness of the lines between them. Most groups are a source of content that is then distributed by active ideological users of OK, especially in Estonia and Latvia.

An analysis of keyword associations for specific macro topics revealed that, for example, “European Union” is most associated with sanctions, and “president” is associated with Putin (again, as with VK, the local heads of state are not present.) “Veteran” and “war” come up only in the context of the Second World War, while the issue of citizenship appears to be most acute in Latvia.



## VII. FACEBOOK (FB)

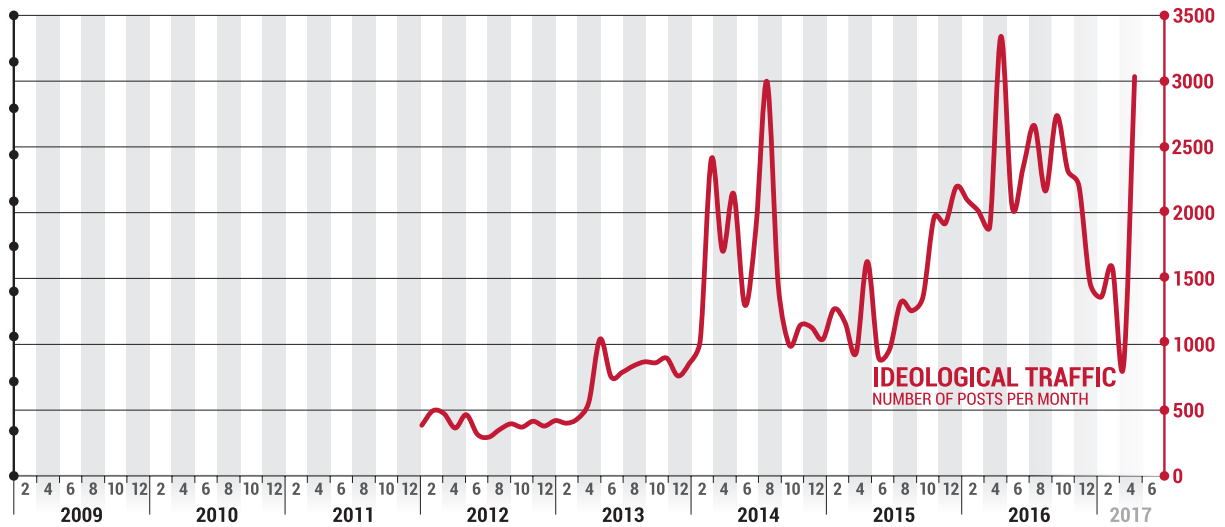


Figure 32: Dynamics of Ideological Posts by FB Users in the Baltic States

Given the distinctive characteristics and technical settings of FB, a different method of data analysis to that used with VK and OK was applied. First, in order to obtain information about active ideological users, keyword searches were conducted and the results compiled. Based on these results, users were selected, and their public profiles then copied and rendered anonymous to form a database. We should note that the information on FB users is incomplete, as by default, pages are visible only to a user's friends. As a result, the study sample only contained approximately 28,000 posts. Nevertheless, despite the limited sample, the results of the FB analysis reflect similar trends and rhetoric as those observed on VK and OK.

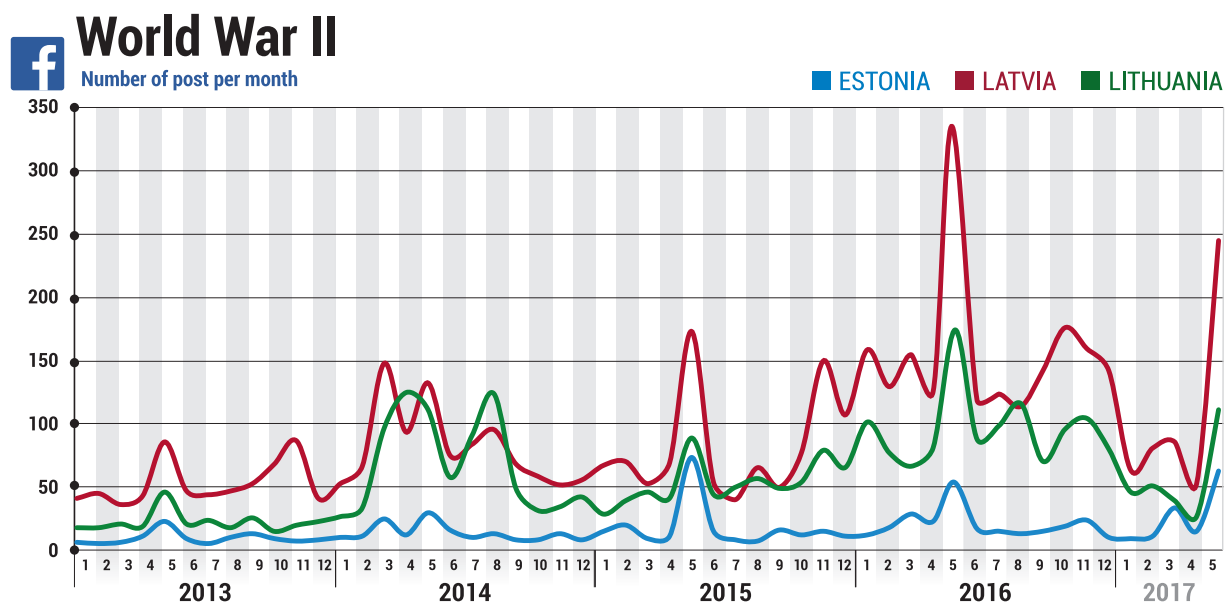
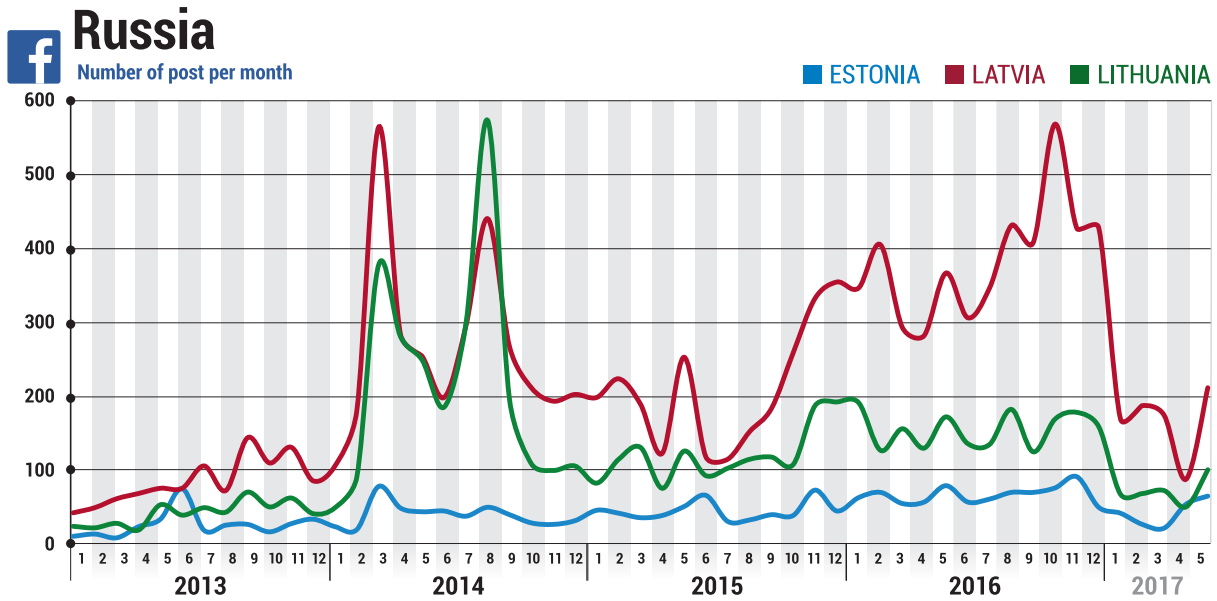


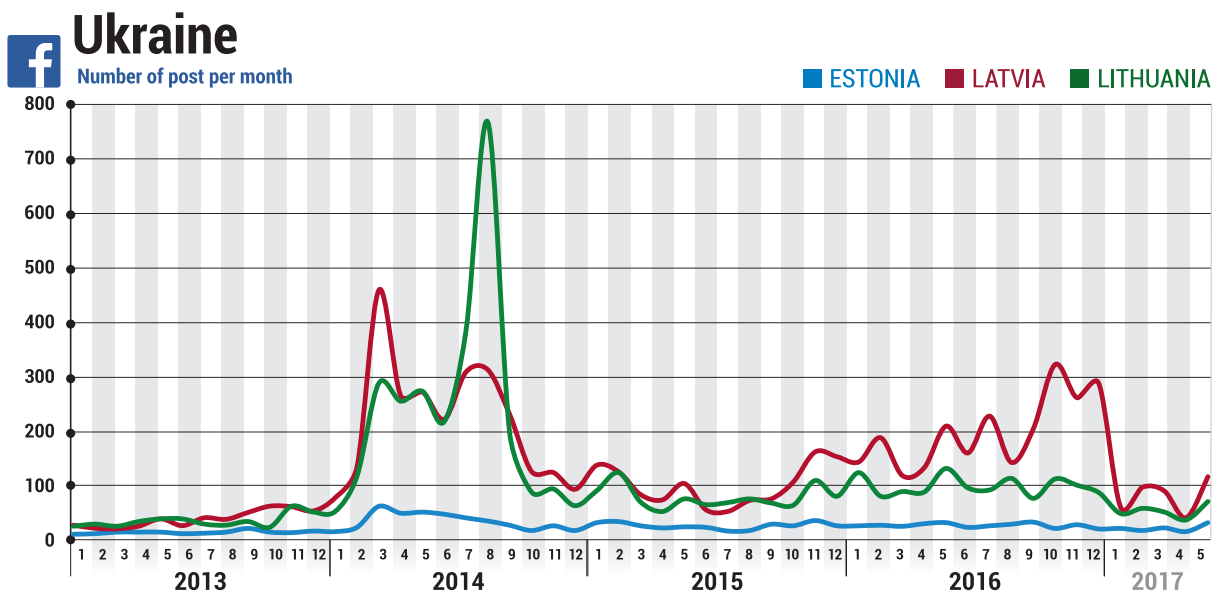
Figure 33: Dynamics of FB Ideological Posts on the World War II Macro Topic





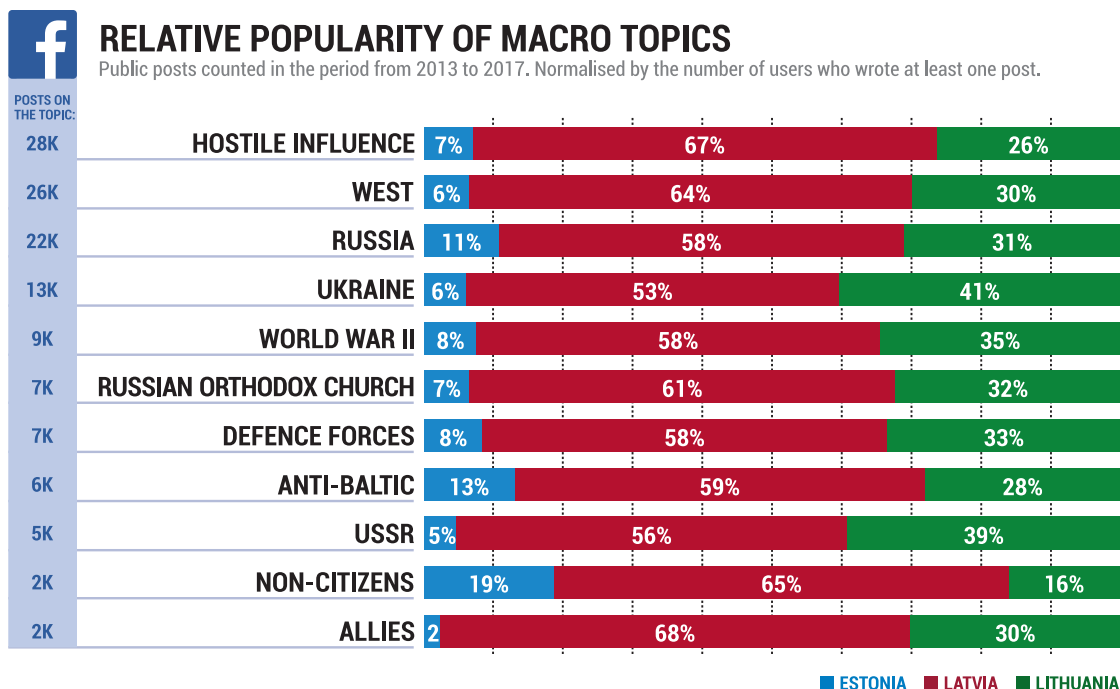
**Figure 34: Dynamics of FB Ideological Posts on the Russia Macro Topic**

On FB, we can see in Figure 32 a notable spike in the number of ideological posts in 2014, one that—after an intervening year of relative calm—took place again in 2016. It is helpful to review the dynamics of FB ideological posts on each of the study’s macro topics—some of which see activity on a periodically-recurring basis, while others are discussed with continuing intensity. For example, in Figure 33 we can see the expected peaks in Facebook posts each May on the topic of World War II, in this case spiking in 2014 and growing continuously thereafter, especially in Latvia. Since the beginning of 2014, other topics widely discussed by active FB users include—on the macro topic of Russia—Russian foreign policy, President Putin, and various aspects of Russia’s socioeconomic situation and cultural life. Intensity of the thematic discussions in Latvia and Lithuania featured many more peaks than the relatively more constant dynamics seen in Estonia (Figure 34).



**Figure 35: Dynamics of FB Ideological Posts on the Ukraine Macro Topic**





**Figure 36: Relative Popularity of Macro Topic among Active FB Users in the Baltic States**

The topic of Ukraine resonated most among FB users in Lithuania—especially during the battle for Ilovaisk, mentioned above, which took place in late summer 2014—though discussion significantly decreased after 2015 (Figure 35).

Comparative analysis of the relative popularity by country of the study’s macro topics shows that the most popular topic in Estonia and Latvia is that of non-citizens, while in Lithuania it is the USSR and Ukraine (Figure 36). We can observe a general trend among FB active users in Latvia of increased attention to ideological issues; in Lithuania, the level of activity has fallen since 2014 and is likely to drop further. Meanwhile, in Estonia, ideological activity is by nature recurring, and is largely associated with periodically resonant macro topics such as, non-citizens, the World War II, the Defence Forces, and NATO.

Analysis of FB groups’ links to ideological content was conducted by comparing the number of ideological reposts made from groups by active FB users in the Baltic states. Similar to the results seen for VK and OK, it was found that the majority of groups on FB also have a pro-Kremlin, pro-Russian, or anti-Western orientation (Figure 37). Such groups, as with those found on the other two social networks covered by this study, feature dense internal connections, and are also tied to each other through a large number of common members. Again, FB groups also serve as sources of ideological information that is then disseminated further by active users.

The results of associative analysis on FB reveal—as with OK—that the term “European Union” is closely associated with sanctions. “President” is associated primarily with Putin, but unlike with the other two social networks, there are also associations with the heads of state of the Baltic states as well. “Allies” are, in contrast to the others, associated not with the 1940s, but instead with current affairs—the term is primarily used on Facebook together with the United States and NATO. “Veteran” and “war”, however, remain discussed in the context of World War II.

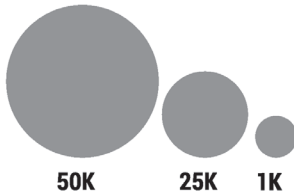




THEMATIC ORIENTATION

- PRO-WESTERN
- PRO-RUSSIAN
- RELIGIOUS

Number of connections within ideological group



Number of mutual friends

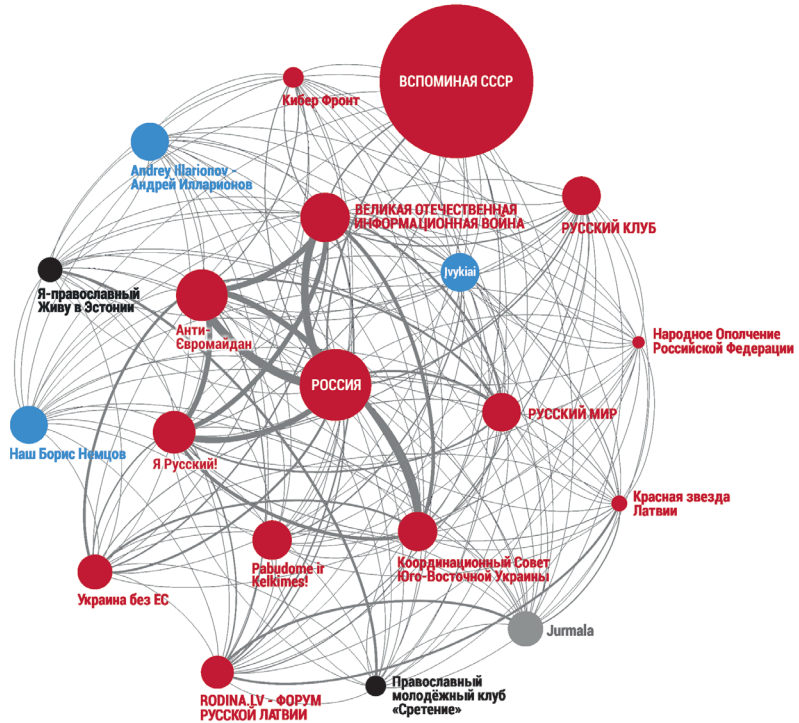


Figure 37: Connections among Ideological Groups on FB

## CONCLUSIONS

Active ideological users are the ones who primarily create, support, and disseminate pro-Russian rhetoric, exploiting the increasingly well-developed connections among users as well as the growth in the number of public groups featuring ideological content.

The analysis in this study has shown that 10% of Russian-speaking social network users generate 70% of the ideological information found on those networks. Due to the atypical activity of some user accounts—especially those who set the tone for discussions of many historical, political, and social topics—we assess that the operators of these accounts are real people who purposefully create ideological content.

Many events taking place offline are used as pretexts to push certain topics into public discussion, making use of dramatic language. Particular attention is paid to topics related to the Second World War, the USSR, present-day Russia, and anti-Western sentiment. Russian-speaking sectors of social networks in the Baltic states are widely used both to continue Russia’s information activities against EU and NATO member countries while cementing its own positive image among the Russian-speaking population of Estonia, Latvia, and Lithuania.

On VK and OK, analysis revealed three clusters of clearly active ideological users, each of which specializes in the creation, distribution, or consumption of ideological information. In addition, there is a significant number of members of “active reserve”, from which the ranks of the above clusters can be replenished. It seems that users



who create ideological content on a wide range of macro topics do not give any preference to any particular topic, consequently they have no particular personal desire to promote certain political values or views, but are instead motivated by non-ideological factors—perhaps even those that are material in nature.

Most of the active ideological users either created their accounts or began their activities in late 2013-early 2014. This was the time in which ideological content began to be seen far more often, a time in which we see preparatory efforts by Russia to launch an aggressive information campaign against Western countries, including Estonia, Latvia, and Lithuania.

There are some artificial elements (e.g. groups of users with predetermined posting behaviour, or bots which amplify certain information prior and during an offline event) in Russian-language discussions on social networks in the Baltic states. These artificial elements change the tone in which information is presented—flooding it with disinformation, and ideological content—thereby redirecting information flows, ultimately distracting users from discussing relevant problems in their societies that do take place. Moreover, the fact that all this takes place in Russian—and often on completely different platforms—only aggravates the problems of social bubbles and segregated information spaces in divided societies.



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