

*German Institute for Global and Area Studies*

# ***International Events and Social Media Activities on X (formerly Twitter): Towards the Establishment of a Monitoring Dashboard***

Andrew Crawford, Thomas Richter, Julian Hohner, Simon Greipl, Heidi Schulze

**Phänomenmonitoring**

Forschungsprojekte im Profil

## Zusammenfassung

*In diesem Beitrag wird ein Dashboard zum Monitoring der Einflüsse von internationalen Ereignissen auf Aktivitäten von Nutzern in soziale Medien vorgestellt. Zunächst wird das X Monitoring Dashboard (XMD) vorgestellt und seine Funktionalitäten beschrieben. Mit XMD ist es möglich, Aktivitäten bestimmter Nutzergruppen über Zeit sowie die darin enthaltenen Inhalte wie Wörter, Hashtags oder URLs zu analysieren. Im Anschluss wird anhand von Daten der sozialen Medienplattform X (früher bekannt als Twitter) dargestellt, wie Nutzer aus verschiedenen politischen Lagern auf die Ereignisse innerhalb der Ukraine im Jahr 2022 reagiert haben. Zukünftig wird vor allem an den inhaltsanalytischen Komponenten dieses Dashboards gearbeitet werden, um als Ergebnis zuverlässige Identifikatoren für radikale Positionen und Äußerungen zu entwickeln. Gleichzeitig soll die Anwendung des Dashboards auf weitere soziale Plattformen ausgedehnt werden.*

## Stichworte

X (früher bekannt als Twitter) | soziale Medien, Dashboard | Ukraine



## Introducing the Monitoring Dashboard

X (formerly Twitter)<sup>1</sup> is not only used as a popular social media platform for entertainment and advertising, but also a site of mobilisation for social and ideological movements online (Pfeffer et al., 2023). While on the face of it, tweets, retweets, mentions, and hashtags can seem random or disjointed, there exists an identifiable political discourse that can be channelled into joint action and resistance (Lindgren & Lundström, 2011). As conceptualised by Beck (1997), a group of individual, small-scale decisions or “sub-politics” can become politically significant due to their collective action or simply the aggregation of their opinions. This opinion-based aggregation of opposing groups is made possible, for example, by the retweet function or through commonly used hashtags (Bruns & Burgess, 2011; Vaast, Safadi, Lapointe, & Negoita, 2017; Lüders, Dinkelberg, & Quayle, 2022).

Users can express their own opinions in continuous online discussion and connect with like-minded others by using hashtags, tweets, and comments. Such dynamic user interaction fosters the development of group identities, such as those articulated through hashtag campaigns (Lüders et al., 2022). Through the upkeep of networks based on common interests or indirect involvement, X’s (formerly Twitter) interactive architecture does, in fact, seem to encourage the emergence of such subpolitics (Theocharis, Boulianne, Koc-Michalska, & Bimber, 2023). Low-threshold and indirect connections have a greater potential to stir broader mobilisation compared to instant-messenger services (such as WhatsApp and Telegram), which have more intimate interactivity (Vaast et al., 2017). The proliferation of subpolitics can, therefore, lead to protest behaviour (Theocharis, 2013; Valenzuela, Correa, & Gil de Zúñiga, 2018).

Further, some subpolitics can be described as ideologies that play a role in a person’s potential radicalisation process (Cherney, Belton, Norham, & Milts, 2022). As described in previous work produced by the Internet monitoring of MOTRA, social media discourse prone to radicalisation can, on the one hand, be conceptualised according to more general indices, such as the use of propaganda by extremists, spreading conspiracy theories, or using emotive language to whip up negative feelings towards the

<sup>1</sup> Since July 2023 Twitter is being rebranding to X. We therefore use the designation “X (formerly Twitter)” throughout this text.

out-group or to portray notions of a threat from the latter (Rieger, Schulze, Hohner, & Greipl, 2021). On the other, MOTRA's Internet monitoring has highlighted the distinct role of groups and group dynamics in online radicalisation (Greipl, Hohner, Schulze, & Rieger, 2022) – as also in play on X (formerly Twitter) (Vaast et al., 2017). Thus, looking at the relevance and influence of international events, keeping an eye on X (formerly Twitter) is highly useful for those monitoring political discourse and radicalisation in Germany.

As a further development of the joint work by Ludwig Maximilians University Munich and the German Institute for Global and Area Studies (GIGA) (Richter et al., 2022; Schulze, Greipl, Hohner, Richter, & El Masri, 2022), a Monitoring Dashboard was set up to analyse social media activity on X (formerly Twitter) in reaction to international events. The data for the prototype was based on a previous MOTRA study on the reactions to the Gaza War in 2021 (Richter et al., 2022). This prior study identified 1,375 user accounts based on their use of hashtags related to the Gaza War.<sup>2</sup> They were then coded manually according to ideological position (56 Extreme Left, 360 Left, 143 Greens, 269 Liberals, 351 Conservatives, and 196 Far Right). These previously identified accounts were utilised for the prototype, since they were likely to represent a large sample that is engaged with foreign policy topics. In addition, the user accounts of all 2,449 German parliamentarians, ministers, state secretaries, parties, and ministries on the state, federal, and EU level were also included to provide another source of narratives.<sup>3</sup> For the current platform, both groups of user accounts were collected with the package "AcademicTwitteR" to extract all tweets (excluding retweets) published by these accounts during 2022 (Barrie & Ho, 2021). The prototype dataset includes 752,493 tweets, 49,068 hashtags, and 154,260 URLs.

Monitoring X (formerly Twitter) comes with significant challenges, first and foremost the volume of data it is home to. Some 6,000 tweets are created each second, which equates to 500 million per day or 200 billion per

<sup>2</sup> Using the following hashtags: #FreePalestine, #SavePalestine, #SaveSheikhJarrah, #AlAqsaUnderAttack, #GazaUnderAttack, #PalestinianLivesMatter, #AlAqsaMosque, #MescidiAksa, #AlAqsa, #SheikhJarrah, #SheikhJarrah, #Gaza, #FreeIsrael, #IStandWithIsrael, #IsraelUnderAttack, #IsraelUnderFire, #Israel, #Palestina, "#Palestine", #Jerusalem, #Hamas, #AntiSemitism, #MiddleEastConflict, #Gaza, #Synagogues.

<sup>3</sup> Sourced from the EPINetz dataset for 2021 (König, Schünemann, Brand, Freyberg, & Gertz, 2022)

year (Sayce, 2022). Quantitative analysis on such datasets is common, but the vastness of data often limits results to network analysis of connections between users (Yu & Muñoz-Justicia, 2020) or general trends in topics that eschew complex narratives (Sadler, 2018). Second, X (formerly Twitter) is not a representative sample of the population at large, so cannot be relied upon to reflect attitudes, sentiments, or activities more broadly (Blank, 2017). Third and finally, monitoring as a purely quantitative analysis approach will be limited to exploring large-scale trends on X (formerly Twitter), which, however, will always need further qualitative analysis at a micro level. Considering these challenges, our goal is to develop a dashboard to analyse large quantities of data that not only provides an overview of broader X (formerly Twitter) dynamics, but can also promptly identify emerging trends and discursive venues. This inspired the development of purpose-built software to conduct such exploration: the X Monitoring Dashboard (XMD).

XMD enables researchers to explore X (formerly Twitter) data – and potentially other social media data – to uncover narrative trends and patterns of discourse that cluster around certain political groups. Additionally, the platform can uncover websites, articles, videos, or other materials that are topical in online communities but otherwise hidden to the casual viewer. XMD provides, then, an interactive dashboard for examining large amounts of X (formerly Twitter) data. The platform currently has five pages: Timeline, Words, Hashtags, Users, and URLs.

- The *Timeline* page allows the exploration of time-series trends. Based on the date and keyword filters selected, the platform provides a timeline that shows trends as measured by the daily number of tweets containing that keyword or phrase across the time period specified.
- The *Words* page generates word clouds that provide the user with the most used words related to the keywords and time period selected.
- *Hashtags* similarly indicates the most common hashtags based on the selected filters. Next to each hashtag is the hashtag's frequency in the selected data.

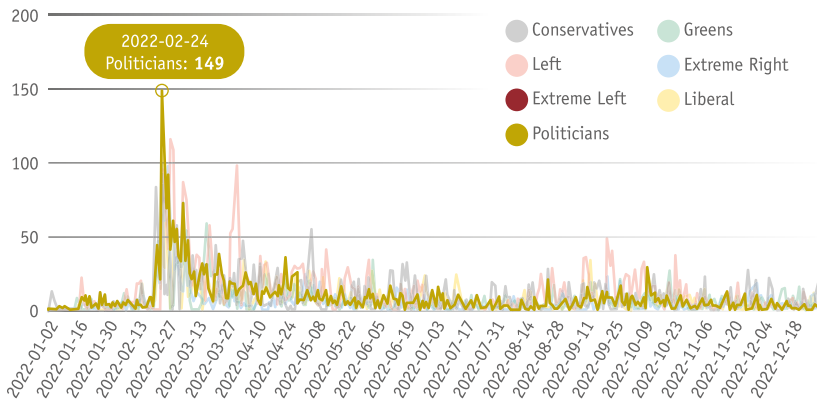


- The page listing *Users* is similarly presented along with the number of tweets made by that user account with a link to their account page that displays all their tweets.
- The final tab provides extracted *URLs* again ranked by the number of times that link appears in the filtered selection of tweets. This powerful tool allows the discovery of widely shared material by the political community of interest.

For each of the five pages, a date range can be entered along with keywords or phrases to filter the entire set of tweets down to a more precise sample. On each page, there are also tabs for seven user groups: Extreme Left, Left, Liberals, Green, Conservative, Far Right, and Politicians. The former user groups go back to the previous work of LMU and GIGA regarding the Israeli–Palestinian conflict, which was published in the MOTRA Monitor of the year 2021 (Richter et al., 2022). While the sample of the politicians is representative that it contains all German politicians who have a X (formerly Twitter) handle, the different ideological groups are hand-coded. They were selected on a previous subproject analysing reactions to the Gaza War of May 2021, and used for a tentative overview of the reactions of different political camps to international events.

### **A First Descriptive Analysis Using the Monitoring Dashboard**

The Russian war of aggression on Ukraine, with all its consequences for key governance fields such as foreign and security policy, economic policy, energy policy, and refugee policy was also a central international event in 2022 that had a major impact on German political discourse.



Graph 1: X (formerly Twitter) tweets containing the word "Ukraine"

Graph 1 summarises the number of tweets containing the word "Ukraine" during the year 2022. It shows the number of tweets each day for each political grouping. The timeline shows a build-up in tweets, first around February 21st when Vladimir Putin recognised Donetsk and Luhansk. Tweets grow exponentially overall following the Russian invasion of Ukraine on the morning of February 24th. Differences in X (formerly Twitter) patterns between different political groupings can be seen. For example, tweets of Conservatives peaked on February 20th, before the invasion, and again on May 5th. Tweets of the Left peak on February 28th and once again on March 31st. For the hashtags used by the different groups, it stands out that #standwithukraine (or #supportukraine) – as indicating a clearly pro-Ukrainian perspective – was among the top-seven hashtags being used across all user groups, but seems relatively less important on the ideologically right-leaning side of the political spectrum. Among Politicians, the Left, and Extreme Left a pro-Ukrainian hashtag was ranked second. Among the Greens it was ranked third, then fourth among Liberals, fifth with Conservatives, and seventh among the Far Right.

As for the popularity of X (formerly Twitter) handles, accounts by official state representatives like @bundeskanzler or politicians from different parties @abaerbock or @\_friedrichmerz dominate the top-ten list. Interestingly, it is only the handle of @welt which makes it to the list of the ten most often retweeted among Liberals, Conservatives, and the Far

Right. In contrast, among the Extreme Left, @tazgezwitscher is number one and @tagesschau number eight, while no handle of a mainstream media outlet is listed among the top ten for the Left (@tazgezwitscher is number 11 and @tagesschau number 14) or the Greens (@tagesschau is number 11 here).

Table 1 below shows the relative importance of the different media handles in the tweets containing the word “Ukraine” during 2022. Again, @welt and also @bild are much more popular among Liberals, Conservatives, and the Far Right, while @tazgezwitscher is the leading news source for the Left and the Extreme Left. @tagesschau is on the top-five list of all groups except Liberals.

**Table 1**  
Comparison of top-five mainstream journalists or news sources according to political group

| Extreme Left      | Left            | Greens       | Liberals      | Conservatives | Far Right     |
|-------------------|-----------------|--------------|---------------|---------------|---------------|
| 1 @tazgezwitscher | @tazgezwitscher | @t3n         | @welt         | @bild         | @welt         |
| 2 @tagesschau     | @tagesschau     | @tagesschau  | @weltwoche    | @welt         | @georgrestle  |
| 3 @derspiegel     | @derspiegel     | @1000news_de | @bild         | @maxseddon    | @bild         |
| 4 @welt           | @tagesspiegel   | @bild        | @derspiegel   | @zdfheute     | @reitschuster |
| 5 @bild           | @welt           | @ft          | @reitschuster | @tagesschau   | @tagesschau   |

An analysis of URLs also shows the variation in content shared among the different groups. For the Extreme Left, the URLs related to articles about Taiwan and the lack of German military support for Ukraine. Both the Left and the Greens had links to discussions about weapons exports whereas the Liberals dialogue had URLs about sanctions against Russia. Conservatives’ shared URLs were focused on Putin’s motivations and the contribution of Ukraine to a further refugee crisis. The Far Right’s URLs called for boycotts by German companies against Russia and “no compulsory vaccination in the shadow of war.” The URLs highlight the different dialogues that can propagate on X (formerly Twitter) around an event. In summary, these results show the underlying nature of discourse on X (formerly Twitter) towards Ukraine in terms of activity over time, political stances, media sources, and topics of discussion. This is one example of what could



be applied to any other chosen topic of interest. We hereby have demonstrated that a dashboard – namely, XMD – can be built to actively explore the subpolitics of X (formerly Twitter) in a user-friendly way.

Overall, using this preliminary stage of the XMD we were able to show that the German X (formerly Twitter) community is reacting to international events and that some considerable differences exist on how an event is evaluated and where the information originally comes from that is disseminated in this context. Ultimately, and with the consolidation of the dashboard, we aim to monitor the narratives that evolve around specific salient and global events based on ideological stances among German politicians and within the broader public. Over longer periods of time, this would enable us to portray how the German political discourse is shaping up on X (formerly Twitter) and in what ways ideological movements influence the overall discourse, including those at the radical ends of the ideological spectrum in their attempt to mainstream and normalise their views.

## Next Steps and Future Challenges

Given the relatively early stage of the dashboard, a preliminary demonstration of its potential could be conducted. However, challenges exist for the further development of the tool. First, future plans to enhance the dashboard include to implement partially automated classification methods using large-language models to embed a multimodal method framework. In theory, we aim to enrich the potential of our analysis to be more flexible in the way we measure the impact of global events within the German political sphere. Second, and more crucially, X (formerly Twitter) recently announced that it would add a fee to use the Academic API. This means that further data collection is bound to unknown costs and, hence, ambiguous future usability of the API. In the remaining months of the first phase of MOTRA, we will therefore look for alternative social media sources, since the XMD can be used in principle with other social media sites. In addition, the existing collection of X (formerly Twitter) data will be used in the collaboration between LMU and the GIGA to develop useful identifiers that can proxy the density and scope of radicalised and extremist content and language on social media in reaction to international developments.

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