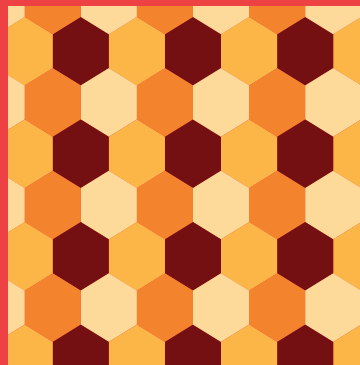


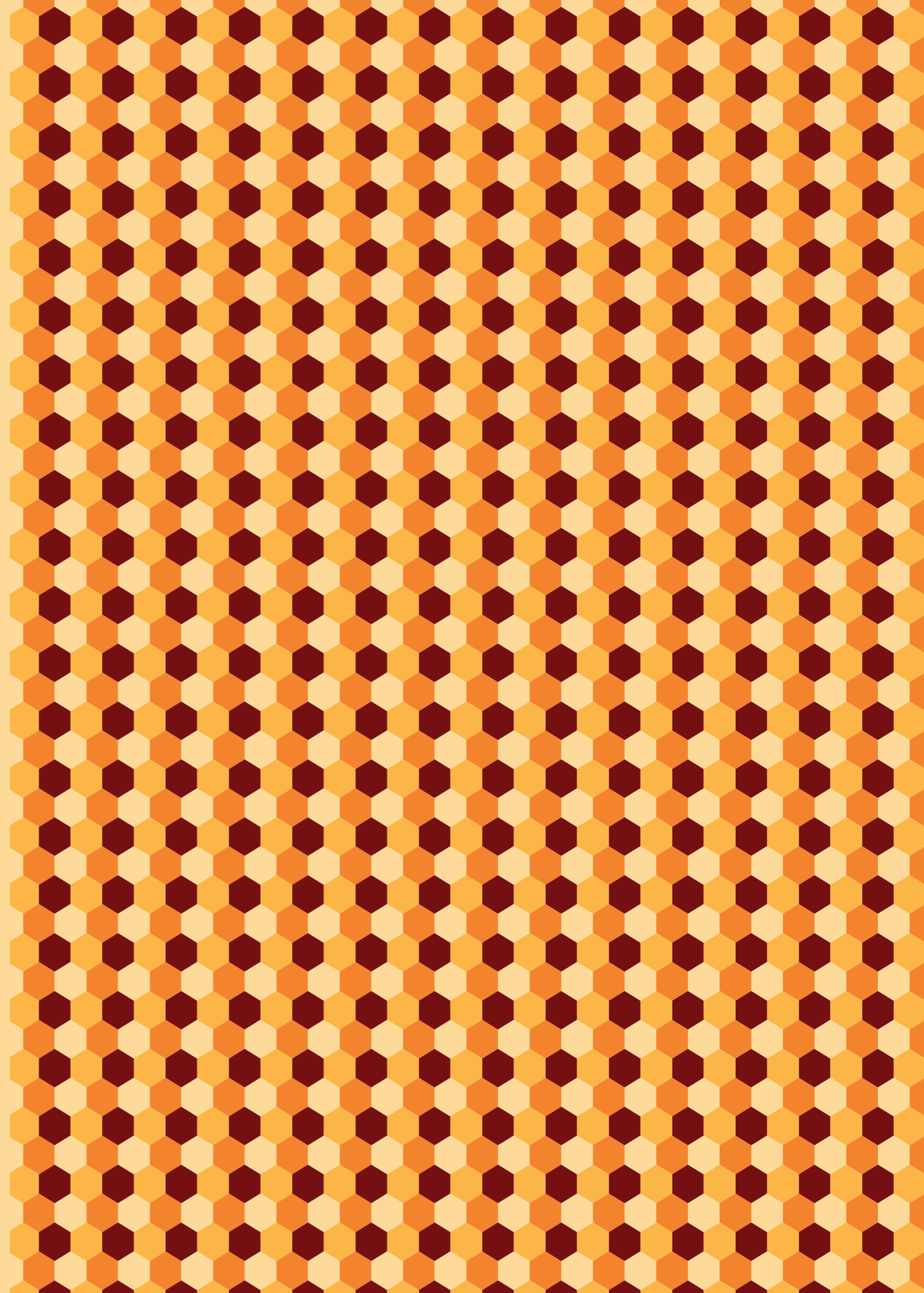
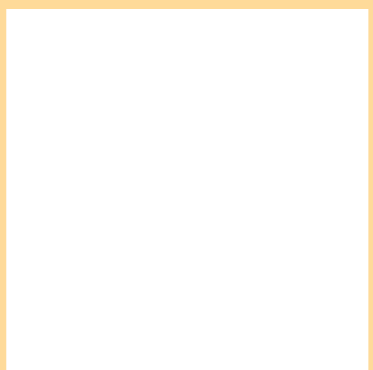
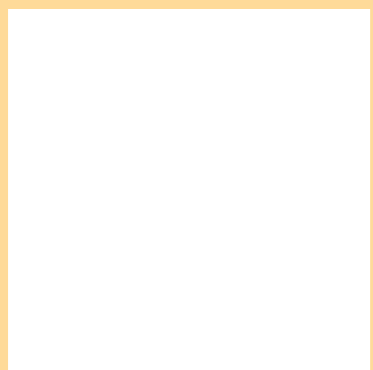
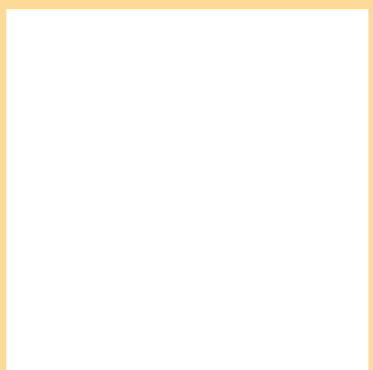
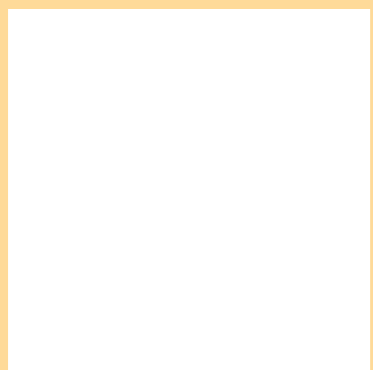


Knowledge Works  
National centre  
for cultural industries

[kunnskapsverket.org](http://kunnskapsverket.org)

# The world tweets Norway: The Norwegian music and fashion industry in global social media





In this report we present research examining where in the world Norwegian musical artists and fashion designers and companies are discussed and attract attention. We use big data methods on social media – in this case long-term global Twitter data – to map exactly where Norwegian cultural actors attract attention on a global level. We find that Norwegian music and fashion both attract attention globally on social media. Norwegian music is more widely commented upon in global social media than Norwegian fashion. The work underpinning this report is part of a wider project focused on better measuring the ever changing contours of the cultural and creative economy and how we can better understand the opportunities that digital technology afford Norwegian cultural producers.

Our global mapping of where people discuss important segments of Norwegian culture is thought-provoking and important for a number of reasons.

First, attracting attention has long been a fundamental step in finding a market or public for people involved in cultural businesses and activities. It is only when people see, recognise and engage with cultural products that markets open. Without grabbing people's attention cultural products can easily remain hidden and unseen. People's attention, however, is a limited resource. This scarcity makes attracting, creating and processing attention an inherent part of economic processes and not simply a cultural and social process. Cultural producers and products must compete in the *attention economy*: an economy and market that is based around competition for awareness. For cultural producers in the attention economy the digital realm is a central concern since it is through social media, such as Twitter, and the internet that consumers increasingly learn about and share new culture. The internet and social media are increasingly the way in which new products are launched and where new consumers can be found.

Second, for Norwegian culture and creatives it is not certain that they will find a sufficient market at home. They must operate in a global marketplace for culture. However, the world is a big and uneven place and it is difficult for even the largest firms to understand where their creations attract attention or might find admirers and customers. Without new measures for understanding where people across the world are interacting with Norwegian culture there is a danger that receptive publics, near and far, are left unnoticed and market opportunities missed. Through understanding where specific cultural iterations attract attention on social media we can gain unique insights into the numerous, far-off and often surprising places that Norwegian culture grabs people's attention.

# Index

6	What we did
8	Global
12	Europe
16	Musical chairs
22	A Norwegian fashion company that attracts attention

Report from Knowledge Works

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The world tweets Norway: The Norwegian music and fashion industry in global social media

## What we did

We examined where in the world a sample of Norwegian cultural producers attracted attention on the social media platform Twitter using big data analysis techniques.

This project is based on the corpus of all ‘tweets’ that were sent in the period from July 2012 to October 2015. This is very big data in the sense that there are around 500 million tweets per day from over 316 million users from every corner of the planet and in over 30 languages<sup>1</sup>. Because this project was about reliably studying the geography of Norwegian cultural producers global impact we focused exclusively on geo-tagged tweets and excluded those without location information. As only 2-3% of tweets are reliably geo-coded to the standard needed for this study it must be remembered that the impact of the cultural producers we searched for is likely wider and more numerous than our results tell. Nonetheless the data here is large scale time series data and provides statistically significant measures of attention to Norwegian culture with Twitter. Collecting, processing and analyzing such big data involves a very special series of challenges and was carried out by an experienced team of programmers and analysts.

Using information supplied directly from Music Norway and from the membership list of the Norwegian Fashion Institute we developed a list of search terms representing over 170 contemporary Norwegian artists, companies or brand names. Whilst this list does not in anyway represent all of Norwegian fashion or music nor anywhere near the breadth of Norwegian culture in general they are a very diverse set of cultural producers from which we can learn much.

Our analysis identified every instance where these search terms appeared in a geo-tagged tweet or in the hash tag and retweet system around individual tweets. Before we did the final data runs each search term was thoroughly tested so that we could control for global differences in language, meaning and spelling: for instance, not all global keyboards contain Æ, Ø, and Å and certain words can have very different uses in other languages and contexts.

Once the findings were produced an experienced group of data visualization experts and cartographers carefully prepared visualizations of the data. In the results section below you will see that we have chosen to represent the findings using maps based on ‘hexagonal binning’ which is a visualization technique that allows

for more efficient data aggregation. The hexagons seen in each level of map are specific to that scale and new hexagonal binning was done for each scale. You will also see that we do not use national borders to define the maps we present but that the hexagons often cross administrative boundaries. This underlines the fact that this type of digital traffic does not entirely respect borders and that people who use social media are constantly moving and interacting with different cultures and places.

### *Why Twitter?*

It is estimated that 1 in every 4 minutes spent on the internet is spent on social media<sup>2</sup>. Twitter is a widely used global social media and microblogging service that primarily allows users to publish short, 140 word, messages online. Users can publish or view ‘tweets’ using a computer or a mobile device. Twitter is a global phenomenon and has rapidly become one of the world’s 10 most visited web services and most widely used social media<sup>3</sup>.

As a social media Twitter is primarily about publicizing and publishing opinion and information. What is highly interesting about Twitter as a social media is that it allows us an opportunity to gauge the world’s attention. Tweets are short and quick to formulate and get online meaning they are ideal for airing all sorts of information and opinion quickly and widely. Furthermore, because Twitter is predominantly a text based media it is searchable in a manner that made it ideal for the type of analysis we aimed at. Twitter is not the only social media but it is one of the largest and is a useful metric to gauge the attentions of people who are active and regular in broadcasting their cultural interests and opinions. Those who use Twitter are extremely likely to use one or more other social media too<sup>4</sup> so studying Twitter helps us better understand social media users in general.

There are limits, however, to using Twitter data. It is worth remembering that not all tweets are equal. Some tweets will go unnoticed but some tweets will be read by millions of people. This all depends on the relationship of the person who tweets with those that read or ‘follow’ that person. Certain twitter users are widely followed: in October 2015 the musician Katy Perry had over 77 million followers

1. <https://about.twitter.com/company?lang=en>

2. GlobalWebIndex Social Q1 2015 Report, <http://www.globalwebindex.net>

3. <http://www.alexa.com/topsites>

4. GlobalWebIndex Social Q1 2015 Report, <http://www.globalwebindex.net>

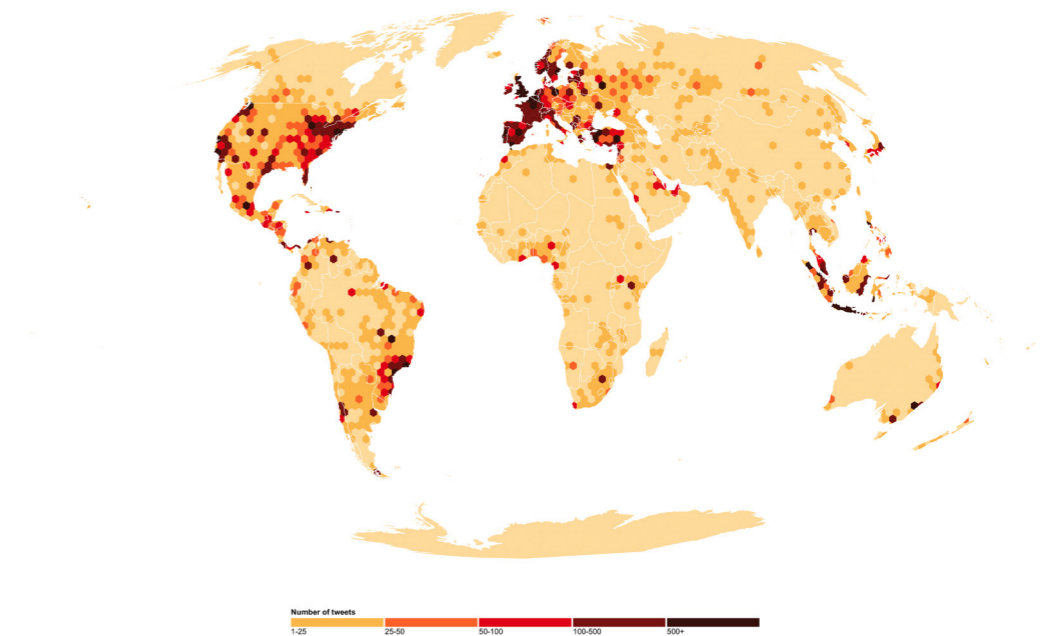
and the Prime Minister of Norway Erna Solberg had 166,000 followers. Messages from people with many followers will be seen by many but equally tweets from people you trust might have a more profound effect. Trusted sources or tastemakers with few followers can have important effects. Tweets can also be forwarded to others: a process called retweeting. Tweets can also be read by people who are not 'followers'. As with all social situations certain voices are very loud and frequent but the loudest voices do not always carry the most weight and some people in the room might not say anything. There are also geographical differences in the use of Twitter, most notably in the fact that it is not widely used within China where other social media platforms hold sway. This geographical variation can be successfully addressed via certain methodological approach (see the odds ratio discussion below) but nevertheless given the relatively low amount of Chinese participation, the awareness of Norwegian culture there is likely understated.

Thus a range of questions can be asked: How representative is Twitter or a tweet? What does a tweet really represent? What is the longevity of these representations? Fully understanding tweets and twitter as a social media would need extensive qualitative research which is not something that this study includes. Nonetheless we think that there are a number of valid reasons for using Twitter to better understand the geography of interest for Norwegian cultural producers.

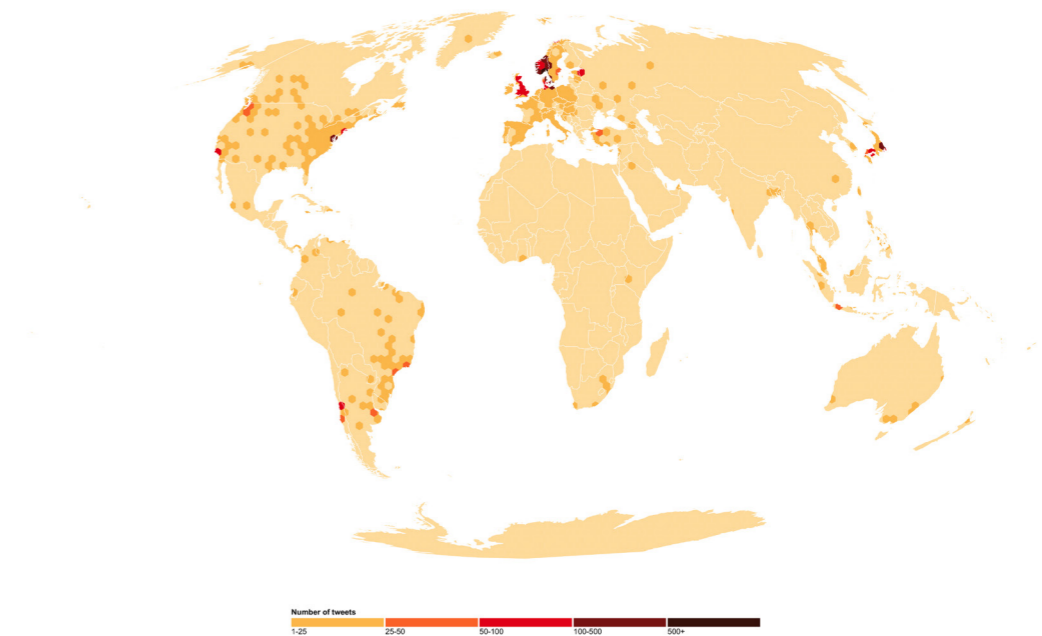
## Global

These first two maps show where in the world Norwegian music and fashion are tweeted about in absolute terms. Together the cultural producers we analyzed generated 640635 geo-coded tweets of which 116401 were coded as valid in that they contained identifiable and specific references to the Norwegian producers we were interested in. It must be remembered that only a small proportion of tweets are reliably geo-coded and we excluded those without location information. Thus, the total number of tweets about Norwegian music and fashion we studied are many times the reliable location coded tweets represented here.

All Music Terms



All Fashion Terms



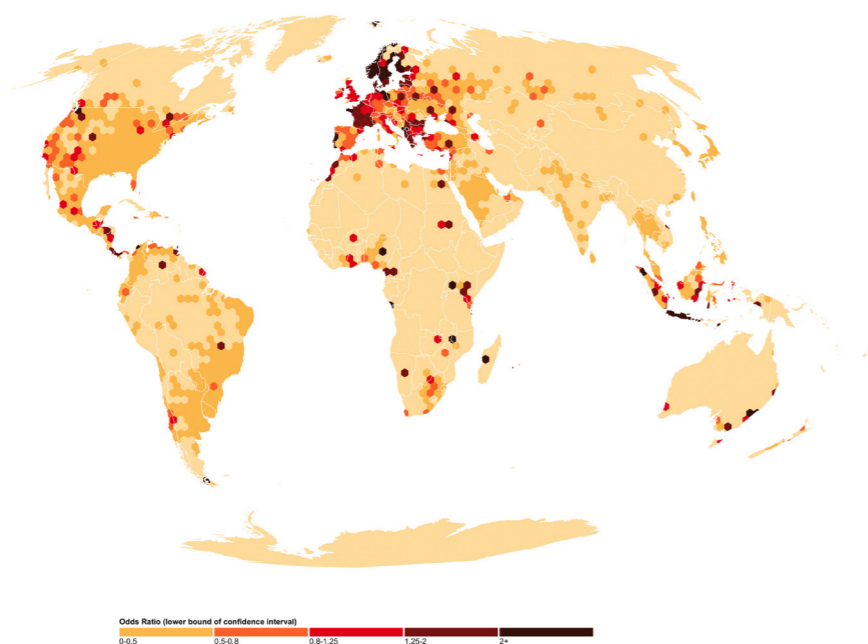
The first thing that strikes you is that both Norwegian music and fashion are tweeted about around the world: we found tweets about Norwegian music and fashion on every continent. Second, Norwegian music generates more Twitter traffic than Norwegian fashion. In our analysis Norwegian music had 10 times the volume of tweets than Norwegian fashion.

However, absolute numbers of tweets can be misleading. Partly this is because some places generate a large volume of Twitter traffic simply due to population density. In short, large concentrations of people results in high number of tweets about everything and nothing is that special. Thus, it is important then to look at the Norwegian tweet data in more than absolute terms. To do this we created an Odds Ratio or Location Quotient analysis which is a statistical measure of under and overrepresentation of an event in a population.

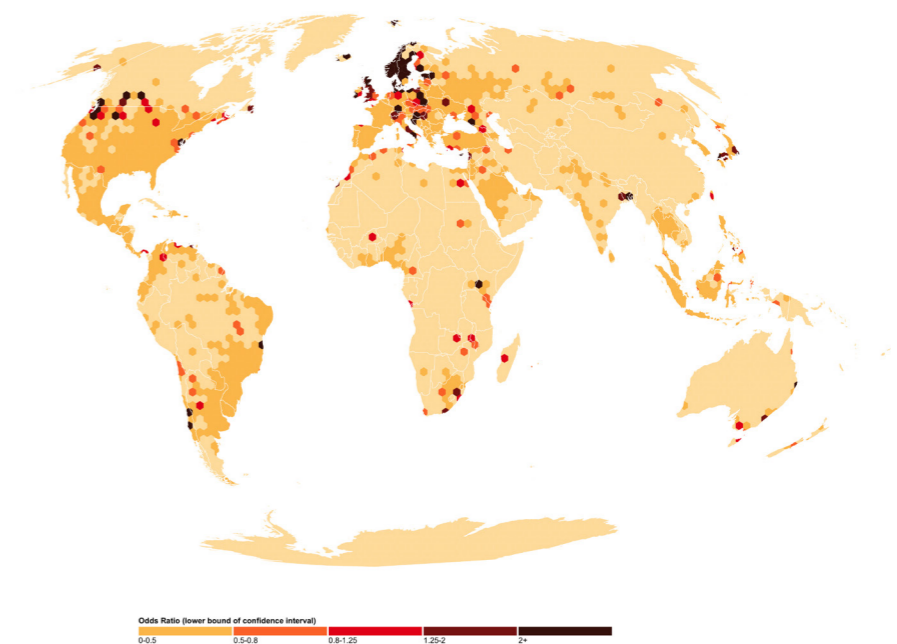
With these 'hotspot' maps it becomes clearer that the places that are disproportionately interested in Norwegian music are not the same as those where Norwegian fashion attracts the largest volume of attention. Norwegian music attracts disproportionate levels of attention in more numerous areas of the world and is tweeted relatively more in western and central areas of the Americas, in Africa, across Europe and in South East Asia and Australia than Norwegian fashion. Norwegian fashion involved a much smaller number of tweets but Norwegian fashion producers attracted disproportionate levels of attention in Japan, Chile and in areas of Europe where Norwegian music gained more modest attention.

An easy conclusion here is that some things are tweeted more than others and that different things attract different levels of attention in different places. In both cases, however, the Nordic region and North Western continental America are particularly important areas for Norwegian producers.

All Music Terms



All Fashion Terms

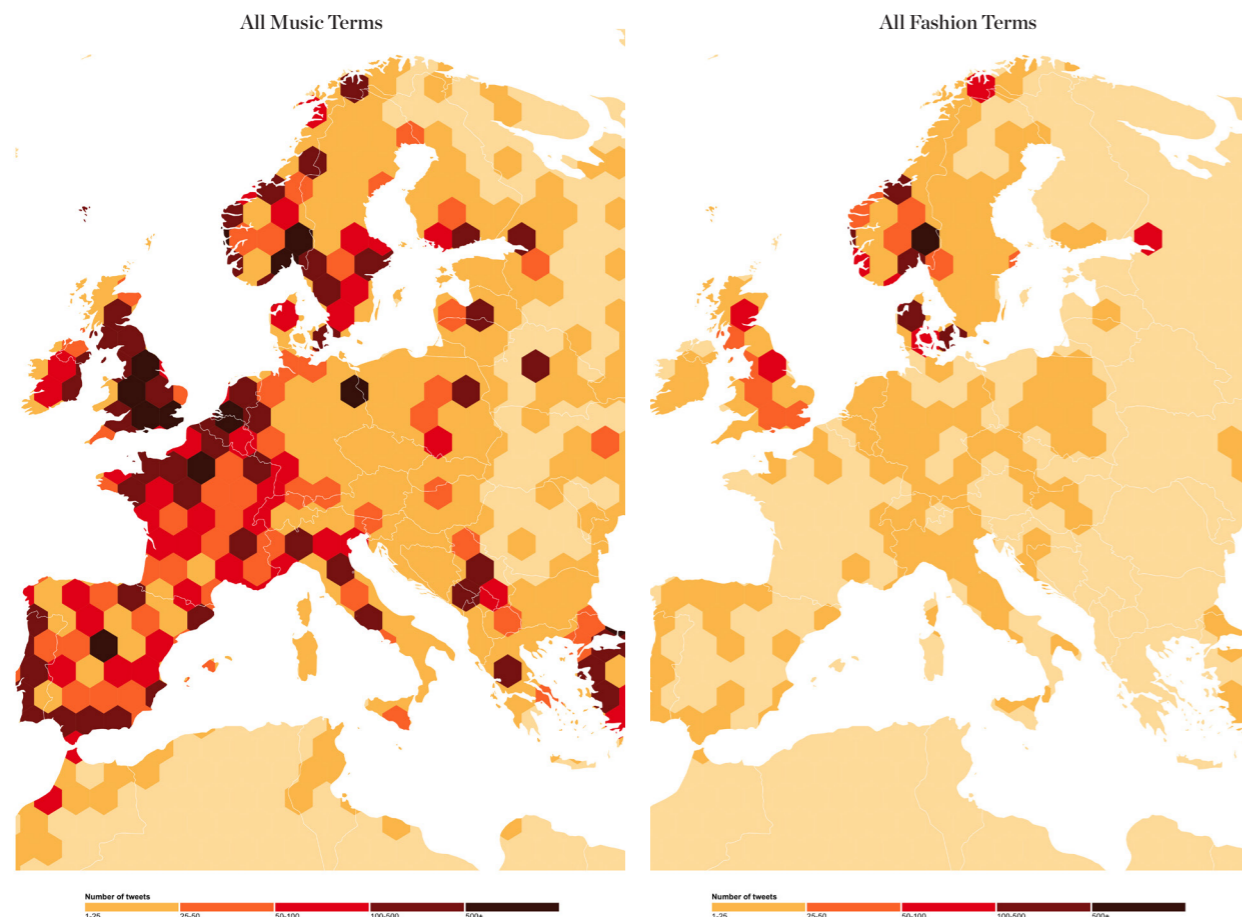


## Europe

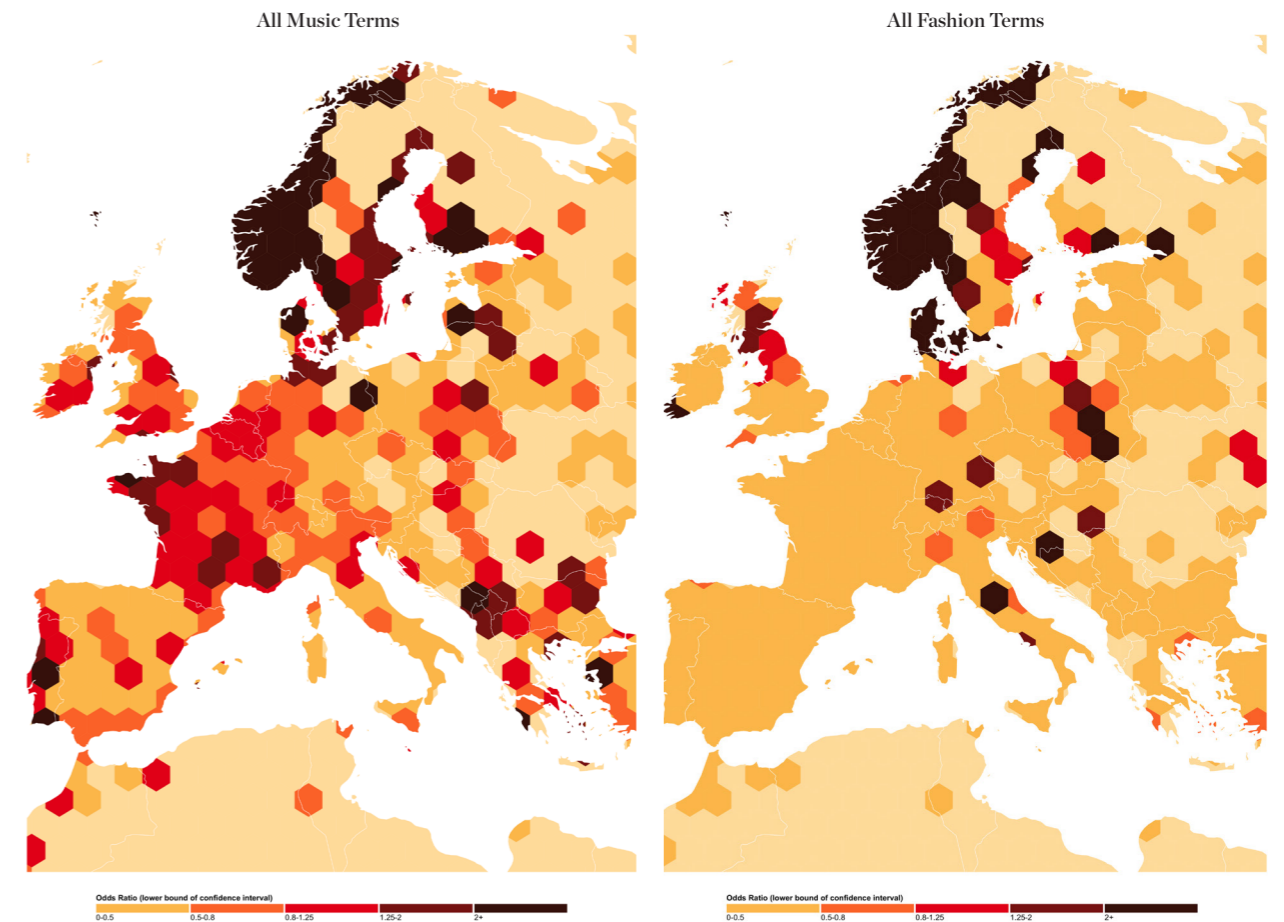
Norwegian cultural producers in our study attracted global attention but a large amount of the attention they received was in Europe.

Norwegian music producers generated higher levels of twitter traffic across Europe than fashion producers. Outside the Nordic countries, Norwegian music attracted its highest levels of attention in the UK and Ireland, in Northern France and the Benelux countries, in Spain and Portugal but especially around Madrid, in the Berlin region, Montenegro and Serbia, and Eastern Turkey but especially in Istanbul. Fashion producers had much lower levels of tweets and attracted higher volumes in northern England, Scotland, and the Saint Petersburg region.

For both Norwegian music and fashion producers the larger urban regions in the Nordic countries are especially important areas.



As before it is important not just to accept absolute numbers but to see where disproportionate attention is paid to Norwegian cultural producers in Europe.



What can be see here is that Europe is interested in Norwegian music and fashion in very different places. Norwegian music producers attracted disproportionate attention in Latvia, Lithuania, eastern Poland, the Berlin region, areas of western and southern France, Portugal, Montenegro, Serbia, Kosovo and Albania, Bulgaria, and areas of eastern Greece and eastern Turkey. Norwegian fashion attracted disproportionate levels of attention in Poland, Saint Petersburg, Scotland, areas of southern Germany, in Bosnia and Herzegovina, Croatia, and the Rome region.

Just as in real life in virtual life and in social media we often attract our nearest neighbors' attentions most. For both Norwegian music and fashion producers the Nordic and Baltic region is crucial.

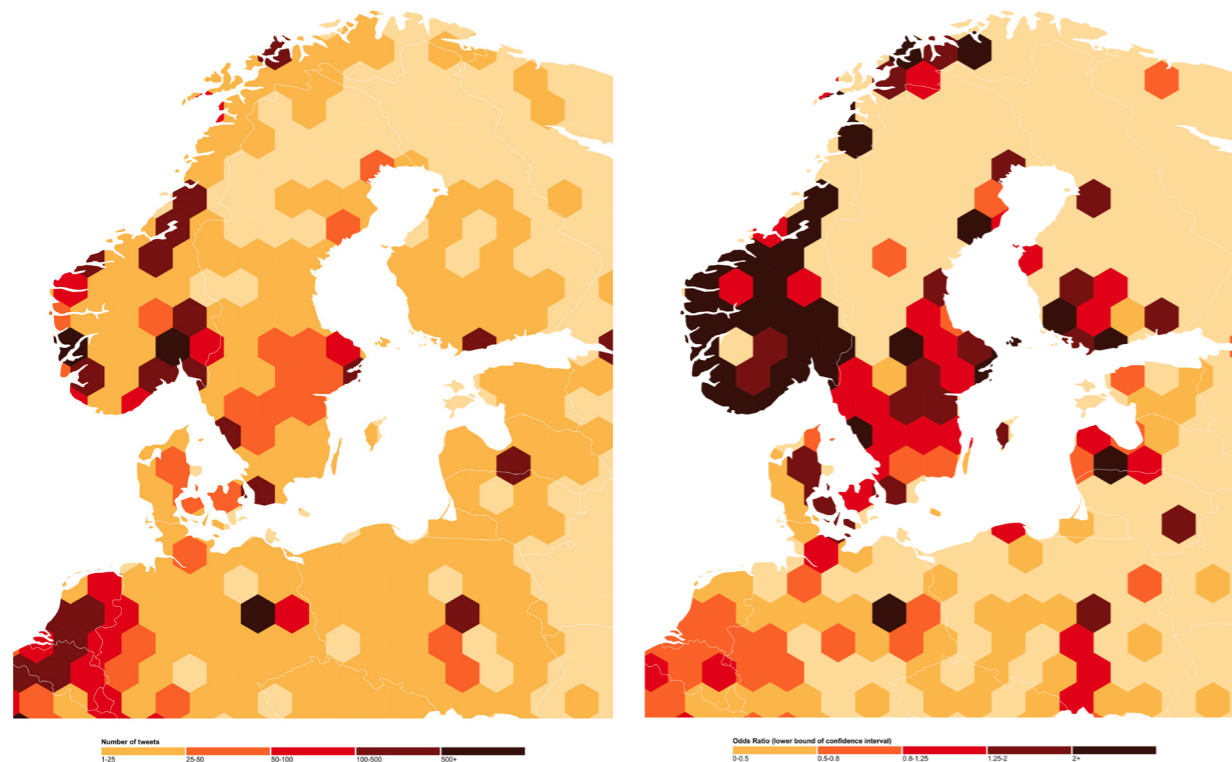


In the case of Norwegian music, the domestic scene is particularly important and across the most populated areas of Norway domestic music attracts disproportionate attention. It also attracts attention in Sweden (particularly in Stockholm, Gothenburg and Umeå), in Finland (especially in Helsinki and Turku), and in Latvia.

For Norwegian fashion producers, the domestic scene is also where they attract high levels of attention. In northern Europe, the domestic attention paid to Norwegian fashion as a proportion of all the global attention it receives is much higher than for Norwegian music producers. Outside Norway, it is Denmark, southern and northern Sweden, and the Helsinki region where Norwegian fashion gets extra attention.

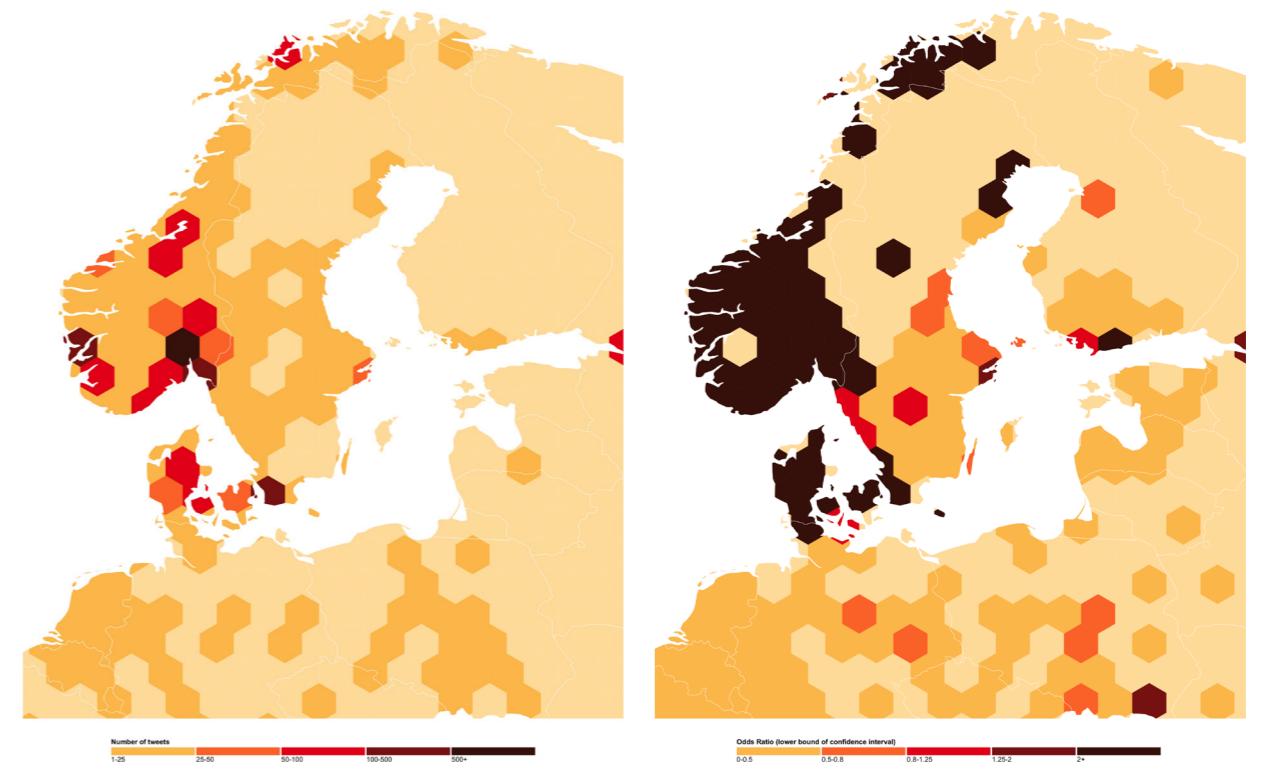
All Music Terms

All Music Terms



All Fashion Terms

All Fashion Terms



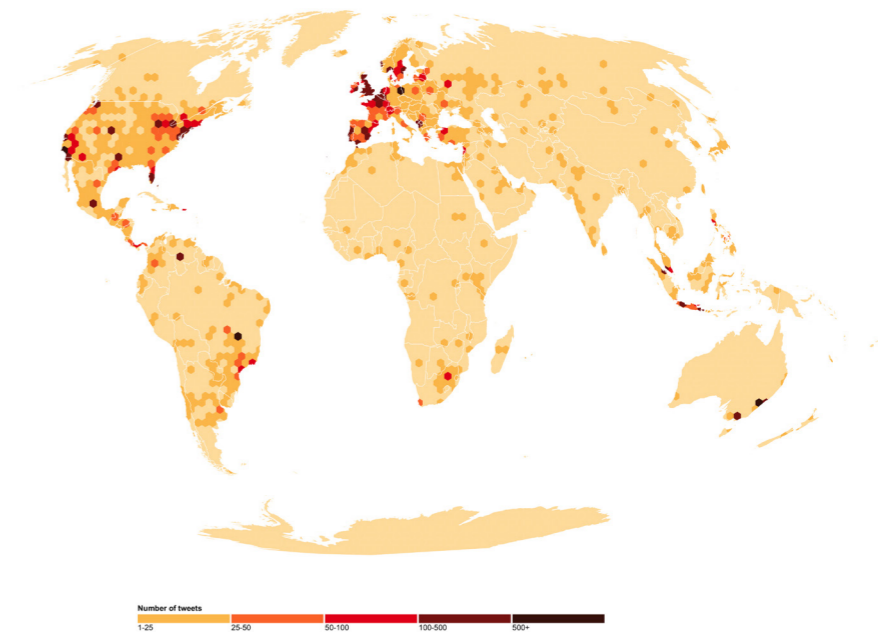
## Musical chairs

The global market for music is intensively competitive. Music producers face a global market with endless choices and a myriad of distribution options and technologies. With digitalization and the easing of restrictions to global trade Norwegian musical producers face a world of opportunities and many potential audiences. It can, however, be very difficult for those making music in Norway to understand where in the world their music is attracting attention and where they should focus their touring and sales efforts.

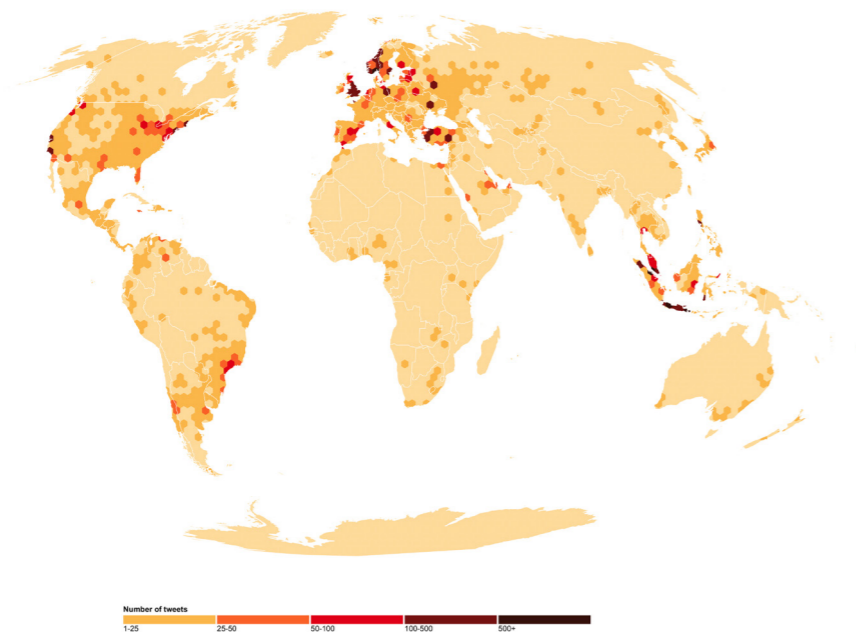
The following analysis of 3 different artists that were included in our study shows how 3 different Norwegian artists attracted global attention from very different places. All 3 acts attracted significant levels of global Twitter traffic which meant that analyzing them could give more robust results. The 3 acts are: Ylvis; Kygo; Nico & Vinz.

As can be seen in the maps below of the total number of tweets each attracted, all 3 acts attracted attention in a wide range of places across the globe.

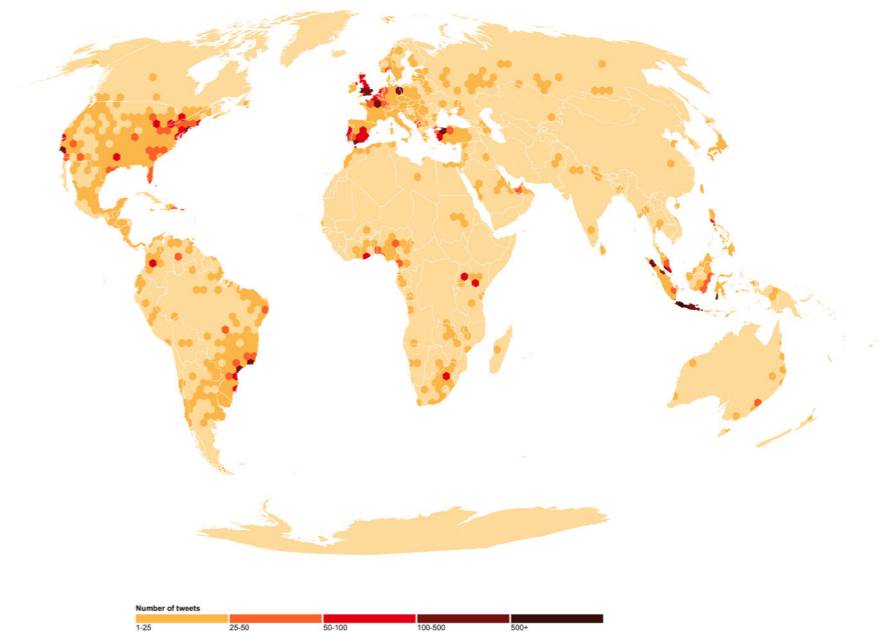
Kygo



Ylvis

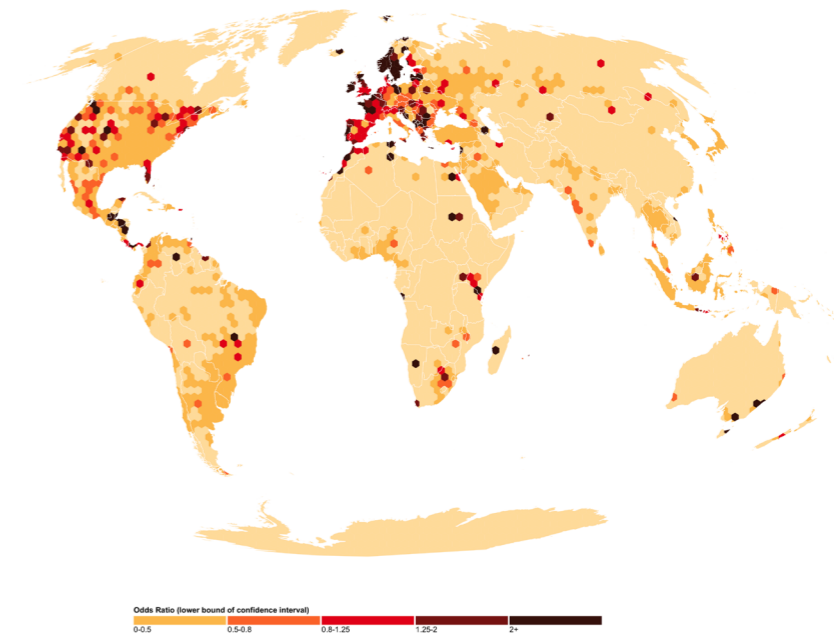


Nico & Vinz

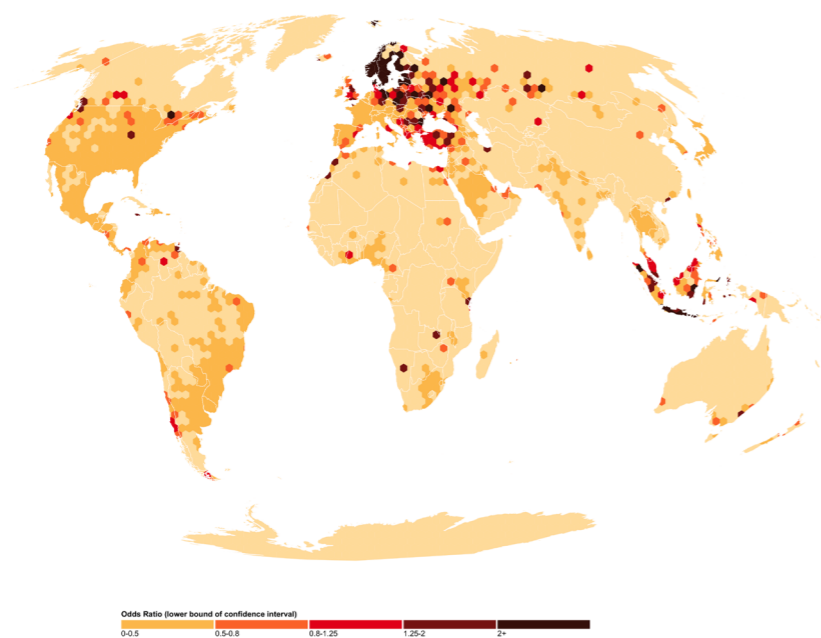


If we look instead below at where these 3 very different acts attracted disproportionate attention we again see stark contrasts between the 3 artists. Ylvis and Kygo attract high levels of attention in Norway and the other Nordic countries. However, Nico & Vinz received relatively little of the attention paid to them in the domestic and Nordic markets whilst they received considerable attention in various centers across Africa, in Indonesia and Australia. Of the 3 acts Kygo was the one that attracted most attention in north and central America. Despite Ylvis and Nico & Vinz attracting disproportionate attention in Indonesia (a country that also has a very high level of Twitter usage) none of the 3 acts attracted strong attention across Asia.

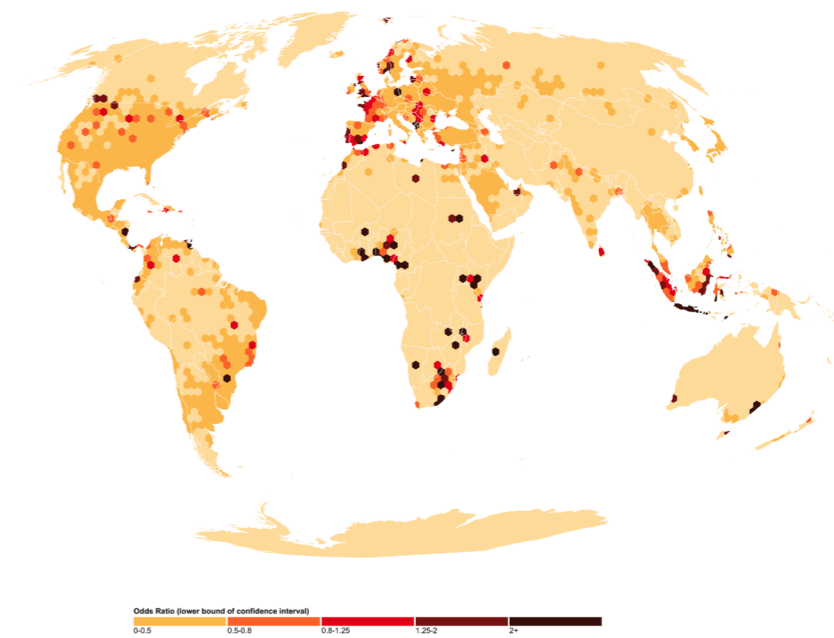
Kygo



Ylvis

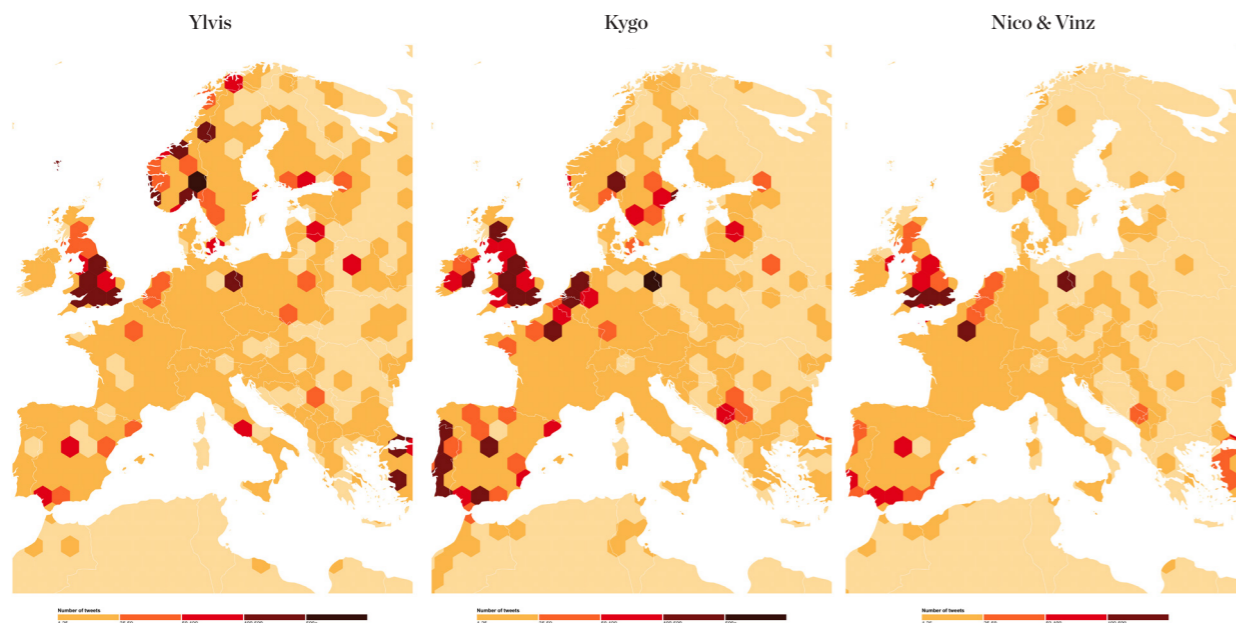


Nico & Vinz

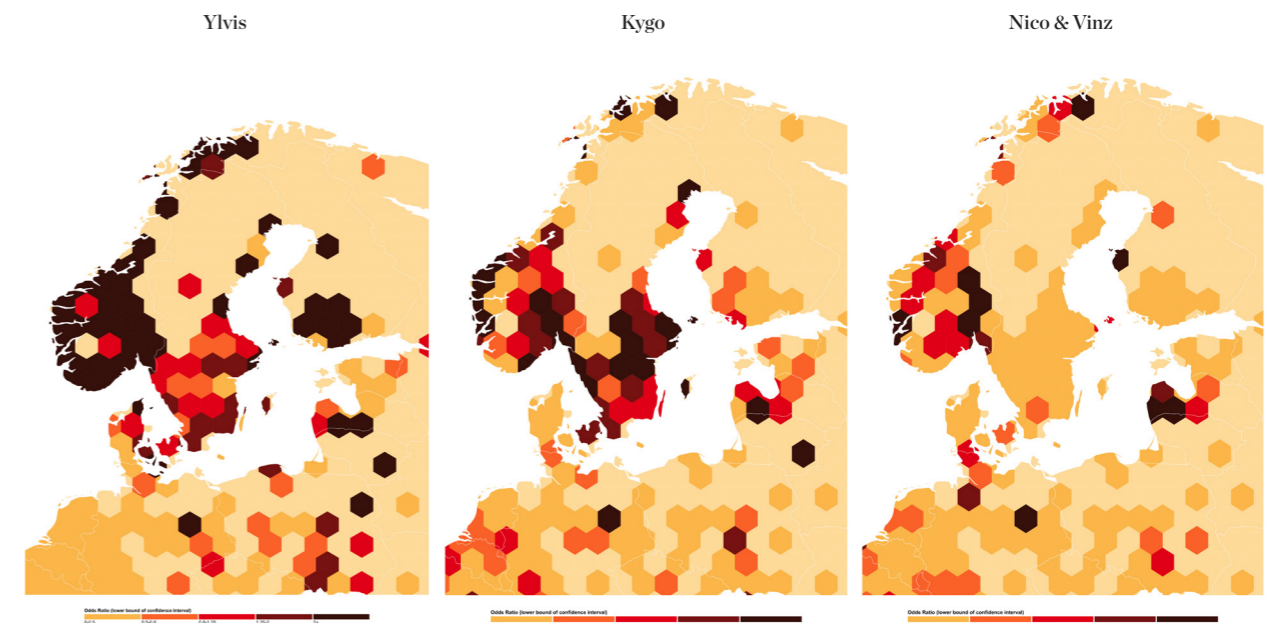


If we look closer at Europe we see that again the 3 acts exhibit very different geographies. In particular, when examining where they receive attention alerts us to the fact that music, and indeed all cultural products, can have very particular geographies. In cultural product markets the marketplace is not the same place for everyone. This implies that cultural producers need to pay close attention to the particularities driving demand for their specific products: though other Norwegians are popular in one place does not mean you will be popular there too.

In the cases of the 3 acts Ylvis, Kygo and Nico & Vinz the only pattern that unites them is that all 3 attracted high levels of attention in southern England. Ylvis attracted most attention at home in the Oslo region, Kygo attracts most attention in Berlin, and Nico & Vinz attract more modest numbers of tweets in Europe but mainly in Berlin, Paris and southern England.



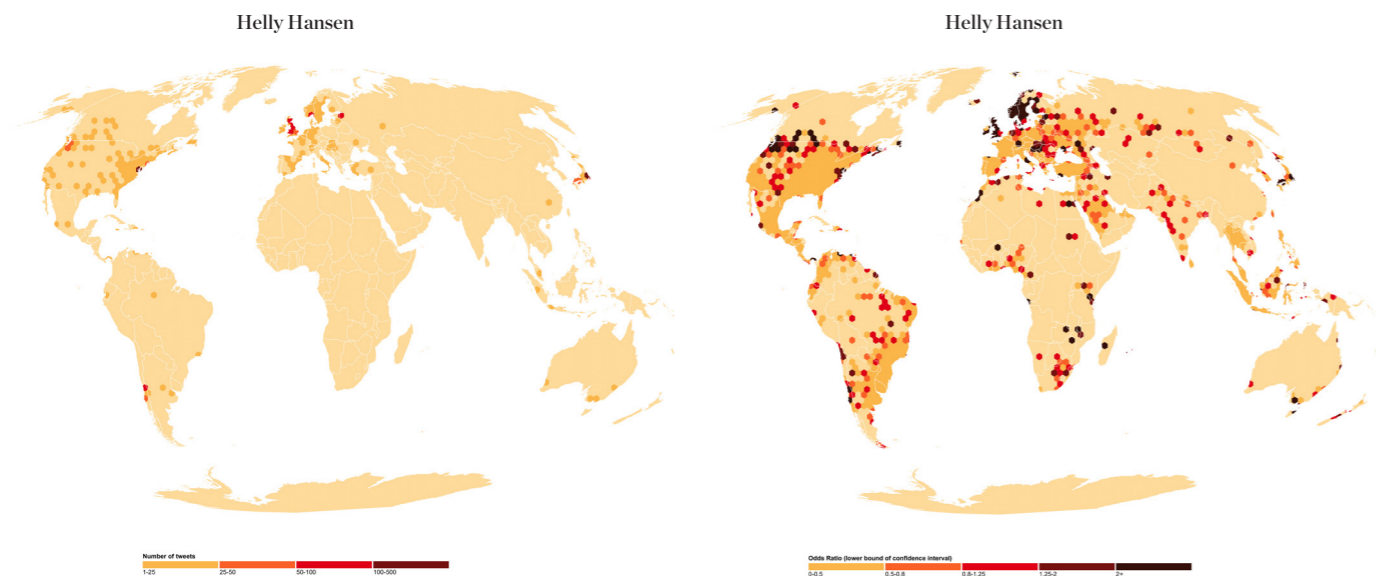
Finally switching to the northern European scene we see clearly that even very near to home does not guarantee that people will take notice of you in the same way in the same places. If we examine the odds ratio data for the area – which places in the region are disproportionately interested – we find again that the 3 acts have different geographies and that even in their ‘home region’ they find different levels of interest and attention. This should alert cultural producers to the notion that though often the domestic or home region market is the most important, in a global cultural economy this is not always the case.



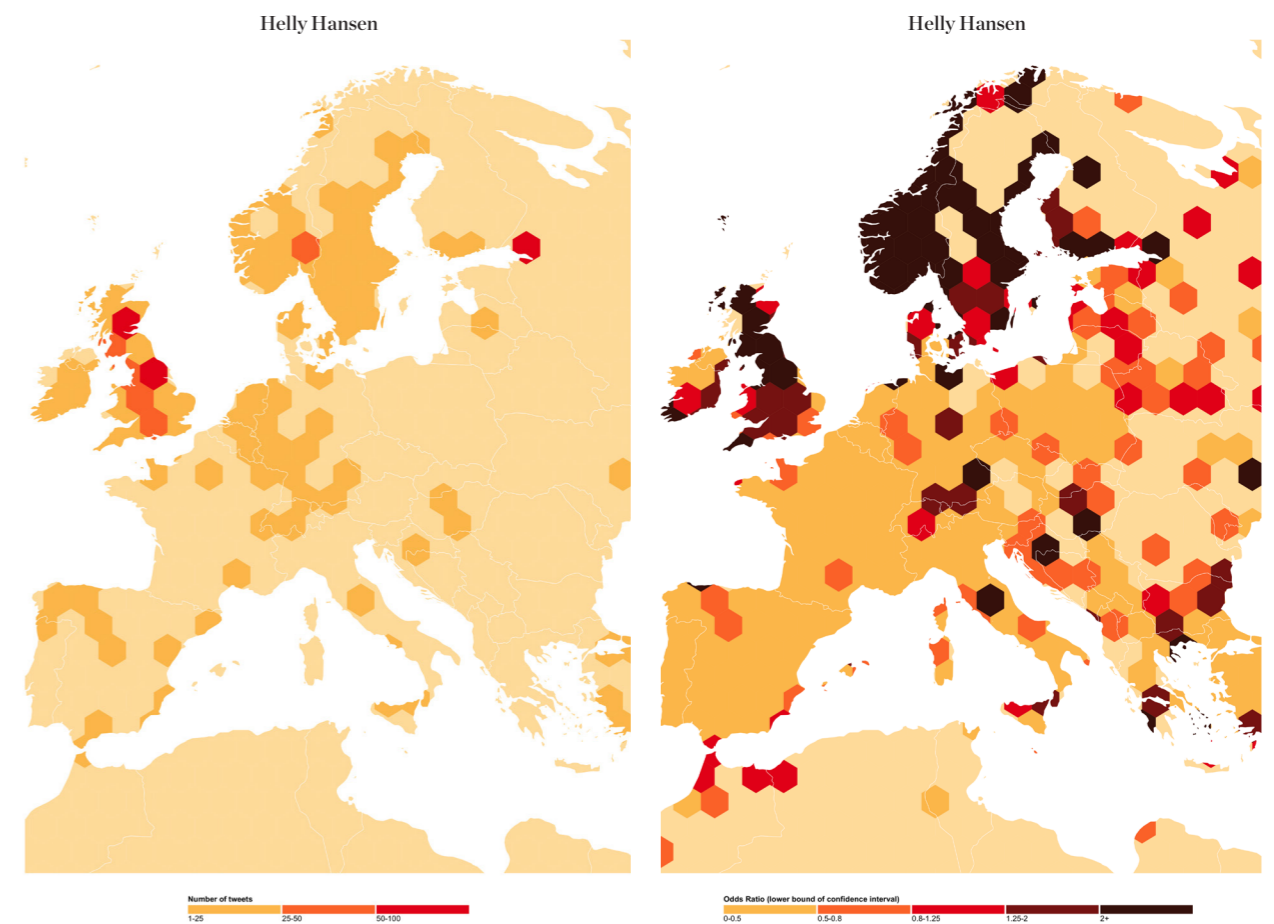
## A Norwegian fashion company that attracts attention

One of the findings of this study has been that Norwegian music and fashion receive very different levels of attention on Twitter. Norwegian music received much higher levels of attention than Norwegian fashion producers. This may be because Norwegian music is a larger industrial system and export industry than Norwegian fashion or that Norwegian music producers use and are more active globally in promoting their product through social media such as Twitter. Alternatively, it may be that Twitter users tweet more about music than they do fashion or that fashion garners more attention on other more visual types of social media such as Instagram.

One of the members of the Norwegian Fashion Institute members that stood out in terms of attention it received in our study was the fashion and sportswear producer Helly Hansen.



Overall Helly Hansen received low levels of attention across the world and when it did attract attention that tended to be in the northern and eastern areas of the USA, Canada, UK, Japan, Chile, and in northern Europe.



In Europe Helly Hansen drew attention in many regions but the highest levels of attention were drawn to the company in England, Scotland, in the Oslo region and in the Saint Petersburg region. By looking at odds ratio representations of the data we can see that this pattern is valid but that in addition disproportionate attention was paid to Helly Hansen in certain areas of Germany, Italy, Croatia, Bosnia, Hungary, and Greece; and across the Nordic region. Such attention may reflect clusters of attention and interest that companies already are aware of or would be interested in better understanding.

