



Report on online disinformation

SPECIAL ISSUE ON CORONAVIRUS

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Methodology

In this Report we refer to the term "coronavirus" in a broad sense to describe all topics related to the current epidemic emergency. More precisely, the scientific name of "new coronavirus" (namely, the virus belonging to the coronaviruses «family» that had never been found in humans before) is "SARS-CoV-2", while the term "Covid-19" identifies the infectious disease caused by the virus



This issue of the Report on Online Disinformation is dedicated to the analysis of information and disinformation production on the Covid-19 theme, consumption of coronavirus news, as well as cybersecurity threats.

The figures shown are updated to May 2020 in order to outline the evolution of information scenarios from the beginning of the spread of contagion to the phase of gradual reopening.

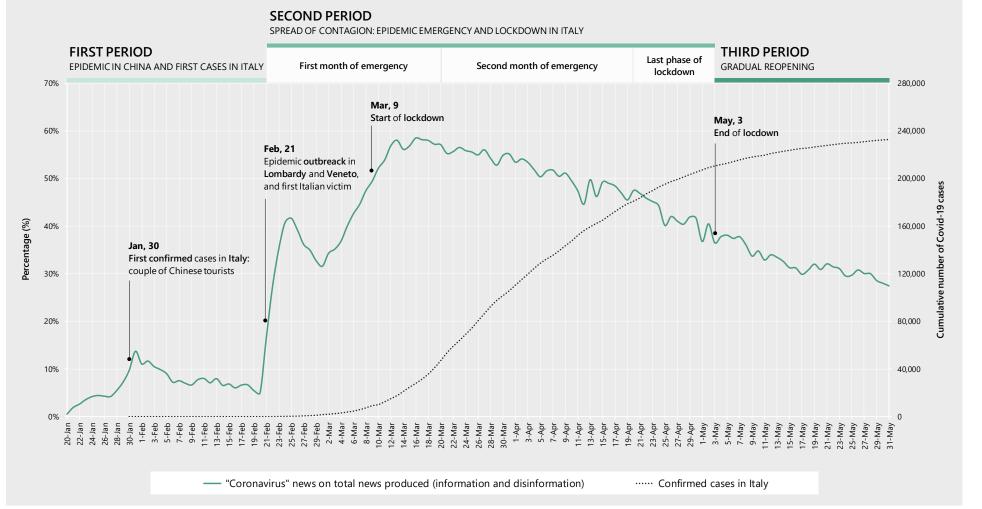
The special issue on the coronavirus of the Report on Online Disinformation is part of the activities of the Roundtable on Digital Platforms and Big Data -Covid-19 Emergency set up by AGCOM to contribute, among other things, to the fight against online disinformation on issues related to the epidemic.

www.agcom.it

WHAT INFORMATION AND DISINFORMATION OFFER ABOUT THE CORONAVIRUS



Daily incidence of coronavirus news on total news produced



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In the last phase of the lockdown and in May, when the gradual reopening of activities and movements has been arranged, the **media coverage** of issues related to the **coronavirus continues to progressively decrease**

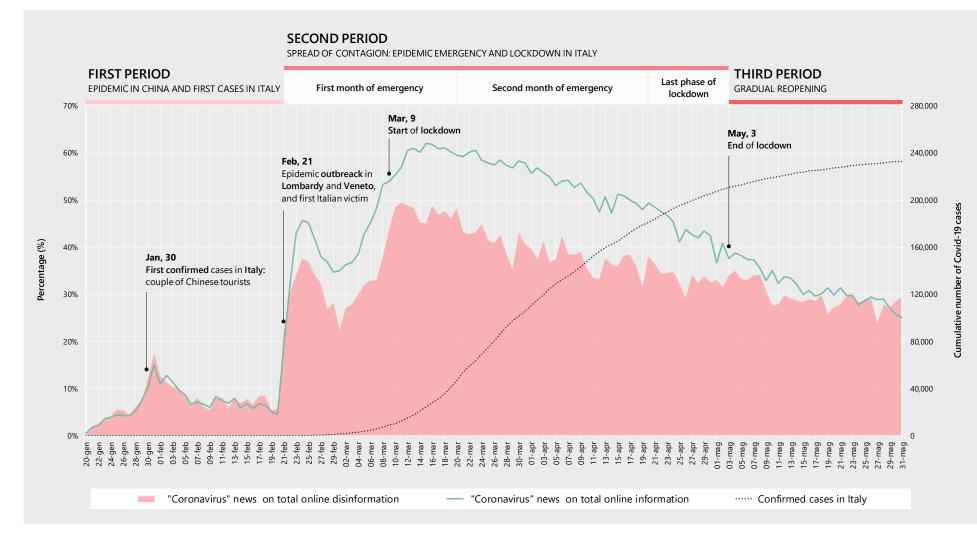
CORONAVIRUS NEWS IN THE WEEK

29% MAY, of the total 25-31 ↓-2 p.p. compared to May, 18-24 ↓-11 p.p. compared to Apr, 27-May, 3

In May, the total **amount** of coronavirus news produced by TV, newspapers, radio and internet remains **considerable** (about 400,000 contents)

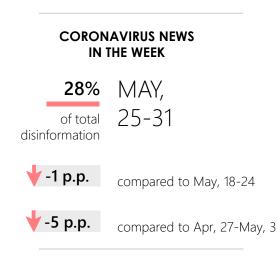
AUTORITÀ PER LE GARANZIE NELLE AGCOM COMUNICAZIONI





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As the days go by, even the space dedicated by the sources of online disinformation to the coronavirus also shows a decreasing trend, although at a less pronounced rate than that observed for information

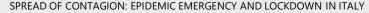


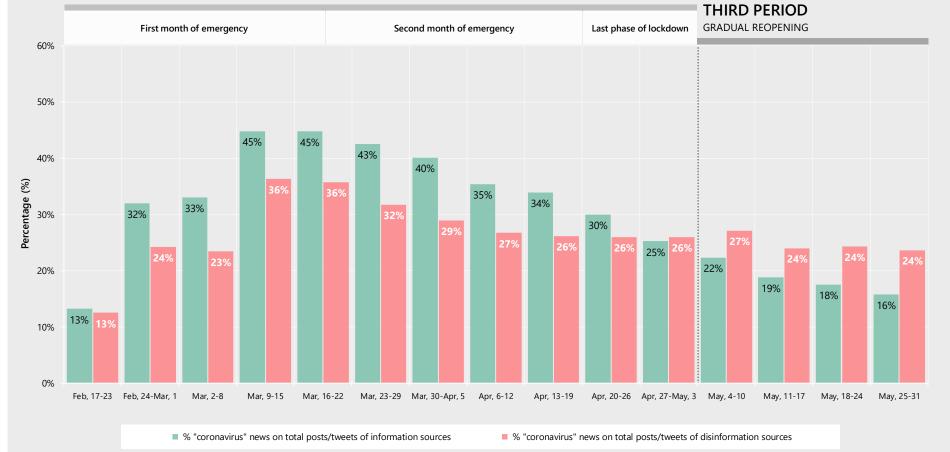
In the last few weeks, the coverage values of the epidemic issues have tended to get closer and closer for online disinformation and information, and from 25 to 31 May both stand at 28%



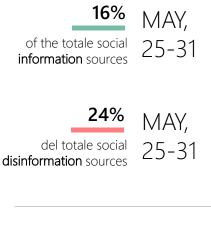
Incidence of coronavirus posts/tweets on total: information and disinformation (% in the week)

SECOND PERIOD





POSTS/TWEETS ABOUT THE CORONAVIRUS IN THE WEEK



For information sources, there is a continuous decrease in the space allocated on their social pages and accounts to coronavirus news, while for social sources of disinformation, at least in the last 3 weeks, the focus on the topic remains almost constant.

As a result, since the end of April, the percentage of coronavirus posts/tweets of the total is **higher for sources of disinformation** than for sources of information

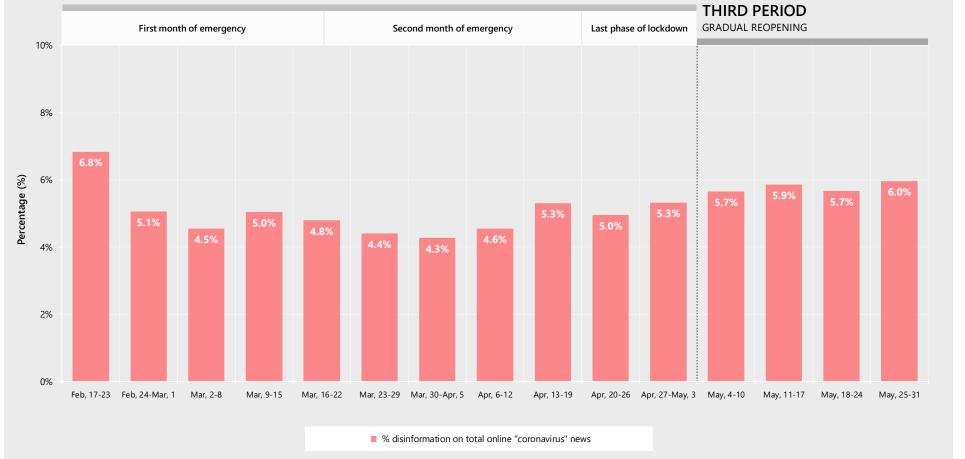
Note: the figures indicated refer to the posts and tweets published by the pages and social accounts (Facebook and Twitter) of the sources of information and sources of disinformation identified as such by external debunking specialists. Therefore, they do not include users' posts/tweets. The figures indicated for the first 9 weeks may differ slightly from those reported in the previous issue of the Report, in view of the inclusion in the analysis of further sources



Disinformation on total online coronavirus news (% in the week)

SECOND PERIOD

SPREAD OF CONTAGION: EPIDEMIC EMERGENCY AND LOCKDOWN IN ITALY



1

Compared to the most critical period of the medical-health emergency, in which the information component's attention to the issue was at its peak, in recent weeks the weight of disinformation on the total amount of coronavirus-related news circulated online has increased again, exceeding 5% earlier and rising to 6% at the end of May

INCIDENCE OF DISINFORMATION IN THE WEEK

6% MAY, of the total online 25-31 "coronavirus" news

The incidence of disinformation on the total news related to the epidemic is even greater if the analysis focuses only on the **social content** produced. In fact, considering all the posts and tweets on the **coronavirus** published by the sources examined, those of **disinformation** represent **13%** in the last week of May

Note: the figures indicated for the first 5 weeks may differ slightly from those reported in the previous issue of the Report, in view of the inclusion in the analysis of further sources of disinformation identified by external debunking specialists, which made it possible to make adjustments also with reference to previous periods



MAIN FACTS ABOUT 5G

5G USES RADIO FREQUENCIES THAT HAVE BEEN LARGELY IN USE ALREADY SINCE MANY YEARS

The fifth generation of mobile radio networks (5G) represents an evolution of the previous ones, which uses frequencies already used for years with other technologies or quite similar (from July 2022, 5G will use the 700 MHz band, so far used by TV broadcasters, which has similar characteristics to the 800 and 900 MHz bands already used for many years for 2G, 3G and 4G services; since 2008 the 3.6 GHz band is used by WiMAX systems and then also 4G; the 26 GHz band has already been used for over 15 years in Italy)

5G DOES NOT LEAD TO AN INCREASE IN THE PERMITTED LIMITS FOR ELECTROMAGNETIC EMISSIONS FOR <u>Go to the link</u>

The limits set in Italy are among the lowest (and therefore the most precautionary) in the world and well below the average value applied by other EU countries, where the limits are already at least 50 times lower than those for which a potential impact on health would not be negligible. 5G does not increase the electromagnetic emission thresholds permitted by law, which must be respected also by new networks. Moreover, these thresholds are cumulative, so the limits will be met by the sum of the emissions of all technologies and operators in a given area

5G IS MORE ENERGY EFFICIENT THAN PREVIOUS GENERATIONS OF MOBILE RADIO NETWORKS

Thanks to the application of innovative technologies, 5G networks allow signals to be dynamically routed to terminals only where and when needed, thus using electromagnetic energy more efficiently (for example, 5G requires less energy than 4G to transmit the same amount of data) and avoiding sending signals where they are not needed

INCREASING THE DENSITY OF 5G STATIONS ALLOWS TO REDUCE ELECTROMAGNETIC EMISSION LEVELS

Distributing a greater number of cellular antennas throughout the territory, in compliance with current regulations on authorizations, makes it possible to reduce the average distance between base stations and user terminals (smartphones, tablets, etc.) and consequently reduce the intensity of the electromagnetic signals transmitted; although this may seem counterintuitive, this circumstance, combined with the innovative transmission techniques introduced by 5G, allows to decrease the average electromagnetic field around the user. In addition, this allows for longer battery life of the terminals, higher overall network capacity, better quality of service and higher transmission speeds

5G DOES NOT INCREASE RISKS TO HUMAN HEALTH F Go to the link

According to the latest (March 2020) guidelines of the International Commission on Non-Ionizing Radiation Protection (ICNIRP) there is no scientific evidence that 5G technology may represent a threat to human health. In particular, on the basis of the most recent scientific evidence, the new ICNIRP guidelines confirm the adequacy of the existing EU limits for exposure to electromagnetic fields, with some necessary adaptations in the bands above 6 GHz, and which at the moment do not require changes to the Italian legislation. The conformity of the 5G technology with the new ICNIRP guidelines will continue to ensure the highest level of protection, without the need for any further study in this respect

FALSE INFORMATION ABOUT 5G AND CORONAVIRUS

THE EUROPEAN PARLIAMENT SAID THAT 5G ACCELERATES THE PANDEMIC

FALSE There is no communication from the EU Parliament to that effect. On the contrary, the EU Parliament expressly states in a communication that there is no link between 5G and the coronavirus for <u>Go to fact-checking</u>

COVID-19 IS CAUSED BY THE REACTION IN THE BODY OF THE BIOENGINEERED VIRUS TO 5G AND WILL BE CURED BY A VACCINE WITH AN RFID CHIP

FALSE There is no evidence that the virus is artificial and according to WHO 5G does not spread Covid-19. Firstly, the vaccine is not a cure, secondly, the hypothesis that it can be developed with an RFID chip has been called "preposterous" by experts

F Go to fact-checking

AN ANTENNA TECHNICIAN REVEALS THE EXISTENCE OF A PLAN TO CONTROL CITIZENS THROUGH 5G AND A LINK BETWEEN 5G AND COVID-19

FALSE The man who appears in a very popular video in chat and social networks is actually a known creator of hoaxes *for the fact-checking*

THE CORONAVIRUS IS NOT A VIRUS, BUT A BACTERIUM AMPLIFIED BY THE ELECTROMAGNETIC RADIATIONS OF 5G

FALSE The new coronavirus is a virus: Covid-19 is not caused by bacteria. There is no evidence linking Covid-19 and 5G technology. In fact, as observed by members of the scientific community, considering the size of the virus and the wavelength of the electromagnetic radiation, an interaction between the two would be impossible

F Go to fact-checking

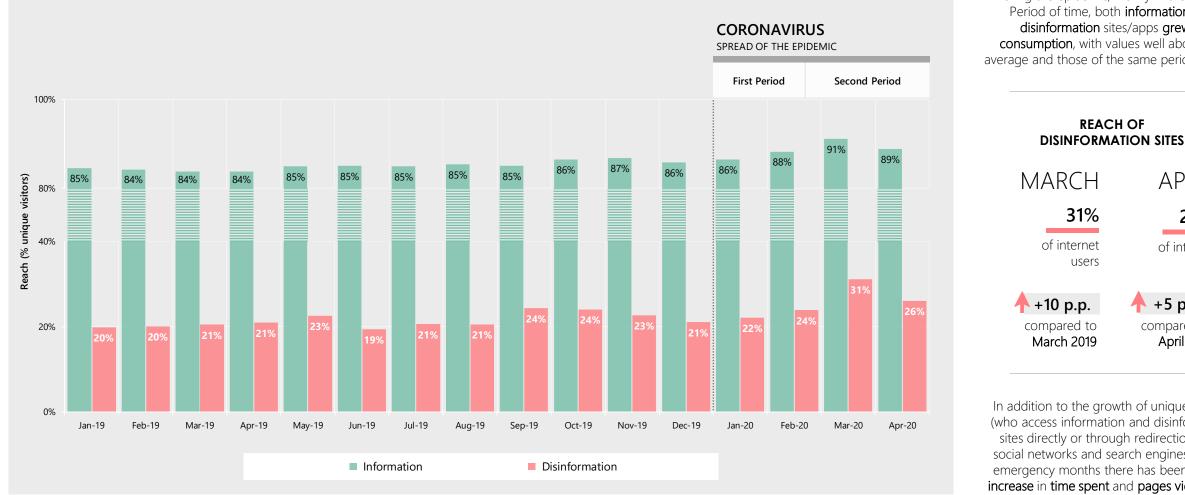
A BRACELET IS ABLE TO COUNTER COVID-19 AND 5G

FALSE The statements used to describe the product (actually sold as a "parapharmaceutical" for more than 600 euros on an e-commerce site) do not have any scientific testing and validation process behind them. The Antitrust Authority, evaluating the deceptiveness of the product, has therefore ordered the elimination from the e-commerce site of any reference to the effectiveness of the bracelet *Go to fact-checking*



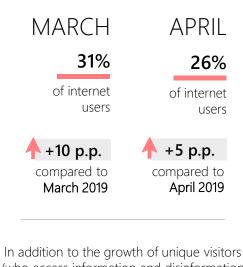


Unique visitors of information and disinformation sites/apps (% of total internet users in the month)



During the epidemic, mainly in the second Period of time, both information and disinformation sites/apps grew in consumption, with values well above the average and those of the same period in 2019

REACH OF



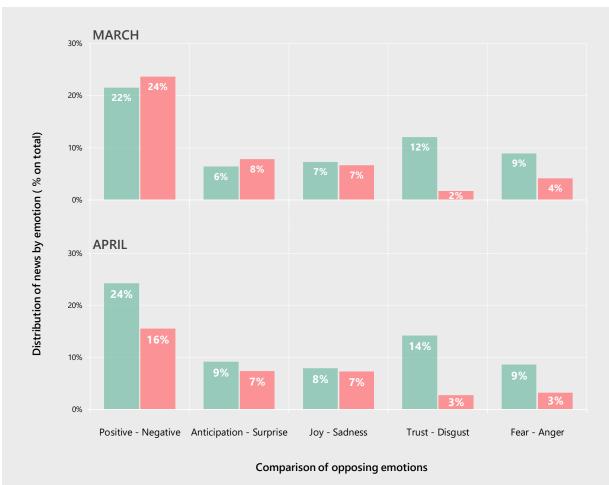
(who access information and disinformation sites directly or through redirection from social networks and search engines), in the emergency months there has been also an increase in time spent and pages viewed per person

Source: elaborations on Audiweb data

2.2 Emotions raised among Italians by the online news during the epidemic



Emotional analysis of online news



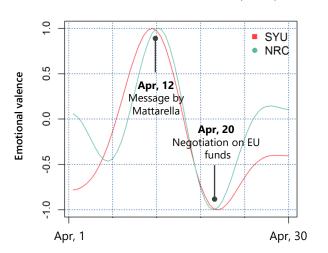
Note: online news distribution for the 10 emotions is obtained through semantic analysis software based on statistical inferences and language libraries. ESA (Emotional Sentiment Analysis) is based on the representation of phenomena from the point of view of the emotions they express (positive or negative emotions) in a scale of differentiation on 10 levels

MARCH

In March, the first month of emergency and lockdown in Italy, the **negative emotion** is the most expressed one by in the online news (24%), an indication of a widespread feeling of uncertainty and concern emerging from the chronicle of the pandemic



In April, there is a change in the trend: **positive emotions grow** in online news articles. In particular, a greater feeling of confidence in a positive resolution of the emergency period is evident



TREND OF THE EMOTIONAL CURVE OF ONLINE NEWS (APRIL)

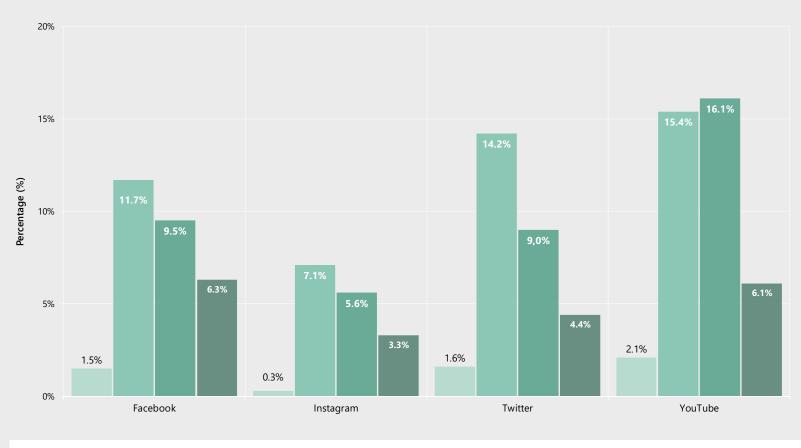
April is marked by two moments of discontinuity in the emotional curve: a positive peak at Easter, with the reassuring message of the President of the Republic; a negative peak at the difficult negotiations on European funds for economic recovery

Note: the "emotional" trend of online news (about 392,000) is obtained through the Syuzhet and Nrc English Text Lexicon methods (on R software). The curve oscillates between -1 (max negative) and 1 (max positive)

Source: Sogei-Extrapola elaborations



Social contents dedicated to the coronavirus: the share of actions/views on total interactions per platform



ACTIONS/VIEWS ON THE CORONAVIRUS

First Period vs. Second Period

Although YouTube has reached the highest share of views achieved by coronavirus content in both periods, the highest percentage (+1,559%) and absolute (+39 million) increase in coronavirus actions between the first Period and the second Period (two-month average) is recorded by Instagram

Second Period vs. Third Period

Between the **second Period** (two-month average) and the **third Period**, as lockdown measures gradually fade, there is a significant **decrease** in actions/views on the coronavirus, more evident, in percentage terms, on **Twitter** and **YouTube** (-67%), and, in absolute terms, on **Instagram** (-20.5 million), confirming a trend already underway

In the third period, only 1 action out of 20 concerned content on the coronavirus, in particular due to the drop in attention to issues related to the health emergency on Instagram, which catalyses the majority of total actions and is the only social network to present an increase in total reactions and comments compared to the lockdown period (+2.3%)

First Period - Epidemic in China Second Period - First month of emergency in Italy Second Period - Second month of emergency in Italy Third Period - Towards reopening

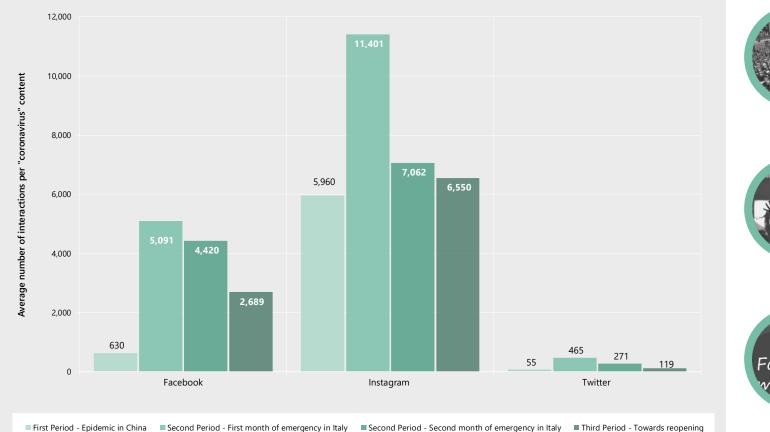
Source: elaborations on Sensemakers-Shareablee data

Note: the percentage of actions (for Facebook, Instagram and Twitter) and views (for YouTube) indicates the share of actions (comments + reactions) or views reached by the main contents dedicated to the coronavirus (max. 5,000 for each platform) compared to the total contents published on each platform analyzed in the 4 months under review

2.4 Social engagement: how much and what Italians comment on the coronavirus



Social contents dedicated to the coronavirus: the average engagement



Note: the average engagement is calculated by dividing the total number of actions (comments + reactions) related to content (posts, images, videos) on the coronavirus by the total number of content dedicated to the theme (max. 5,000 for each social network). It was not possible to calculate the average engagement of content on the coronavirus published on YouTube

Source: elaborations on Sensemakers-Shareablee data

Third Period - Towards reopening

TOP 10 CONTENUTI CORONAVIRUS

FACEBOOK





A clear difference emerges between the first Period, in which the first 10 contents are published only by political subjects and journalists, and the second and third Period, in which influencers and entertainment pages rediscover, also on emergency issues, the centrality already gained among users on the soft themes typical of the social network

If in the first Period the content on the coronavirus with greater

engagement is that published by editorial organizations and satirical pages, and in the initial phase of the second Period the content conveyed by influencers and entertainment pages

emerge, in the third Period, it is institutions and political

subjects that find the greatest interest of users

TWITTER

INSTAGRAM



Twitter remains the only social network in which statuses (texts) find space among the most engaged content. Even in the third Period, it is journalists and politicians who attract the most interest from users. In the same period, the tweet about the coronavirus that collects more actions is a photo shared by the account of a soccer team

YOUTUBE



If in the first and second Periods it is mainly institutional subjects and, even more so, publishers who find the interest of users on emergency issues, in the third Period, following a trend already observed in the second month of the second period, some influencers and companies producing consumer goods also emerge



Online video: the most viewed contents about the coronavirus 2.5



Most popular online videos by total viewing time (top 15 videos for each period)





8.4 mln min



INQUIRY ON CONSPIRACY THEORIES 6.4 mln min



AND ITALY 5.1 mln min



INOUIRY ON WHO 3.6 mln min



DISINFORMATION STRATEGIES 3 mln min

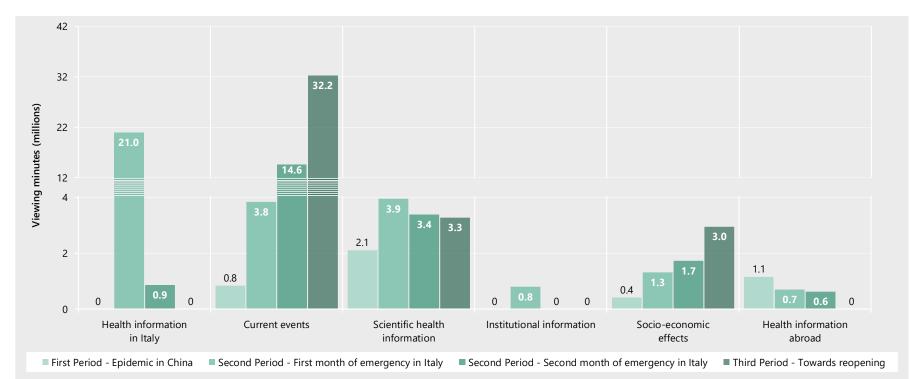


INOUIRY ON THE WET MARKET 2.1 mln min

TIME SPENT FOR VIDEOS ON THE CORONAVIRUS

During the medical-health emergency, the attention of Italians for **online videos on the coronavirus** is always higher than those recorded in the first period (at least 7 times more).

Subsequently, with the end of lockdown, there is a contraction in consumption, which is in any case greater (5 times more) than the values recorded before the spread of contagion in Italy



Note: the values refer to the total number of minutes of viewing (Total Time Spent) of the single video content on demand or of the video category through the online platforms of the publishers RAI, Mediaset, Sky Italia and La7

Source: elaborations on Auditel data

TOP 15 VIDEOS ON THE CORONAVIRUS

Scientific-health information videos confirm its relevance also in the third Period and are more and more focused on possible treatments and behaviors or measures to be taken to avoid the spread of contagion

From the second month of the emergency and in the phase of gradual reopening, the focus is more on current events, in particular inquiries to clarify the possible reasons for the spread of the virus and the theories on the origins of the virus

During the emergency and later on, there is growing interest in the **socio-economic effects** of the pandemic and in particular in the risks related to disinformation strategies

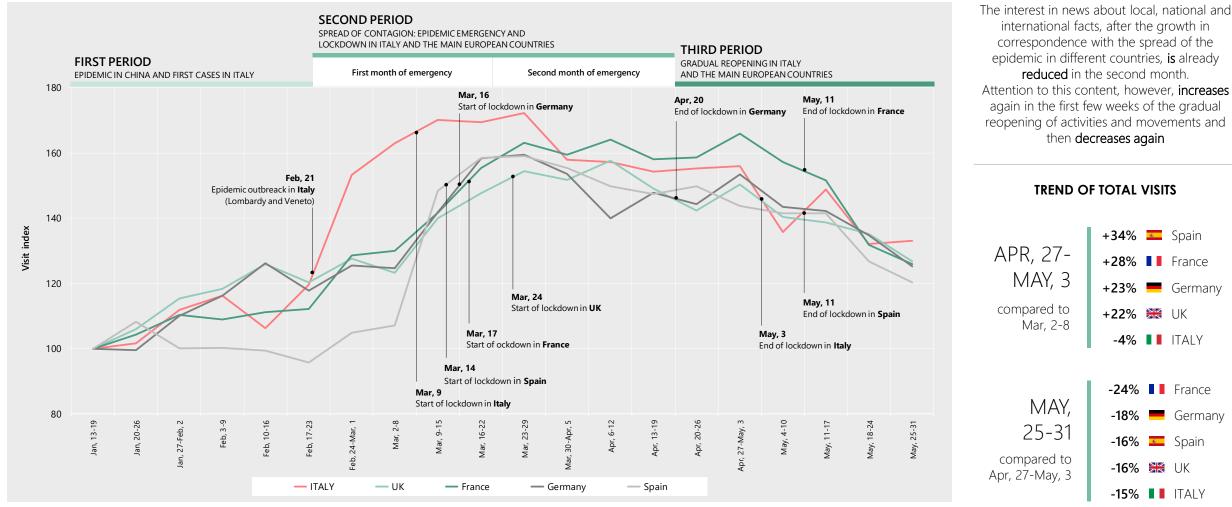




HOW THE INTERNET CONSUMPTION CHANGES DURING THE EPIDEMIC IN EUROPE



Total visits to news and information sites and apps (index)



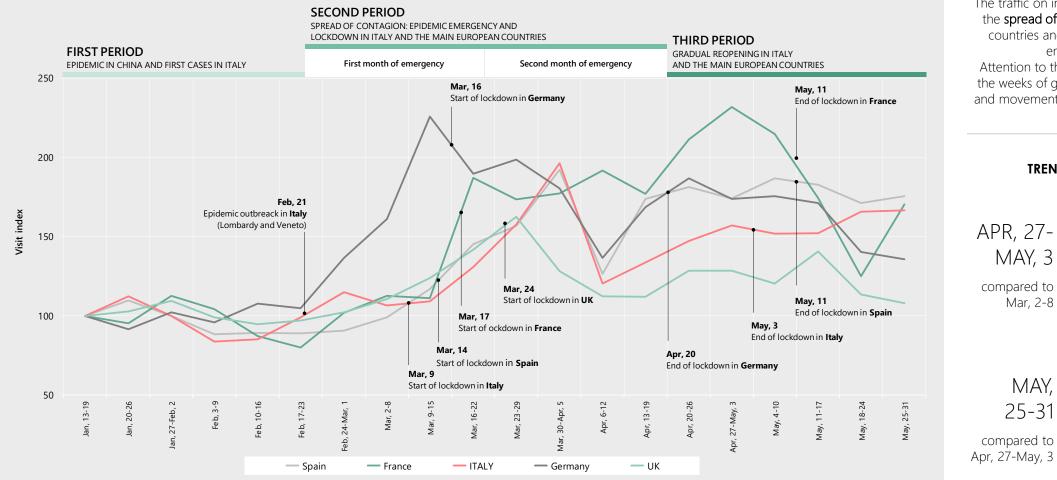
Note: for the Third Period, data on total visits to the sites in the "News & Information" category are available until the week May, 25-31

Source: elaborations on Comscore Custom Reporting,, Jan-May 2020, Italy

14



Total visits to institutional sites (index)



The traffic on institutional sites **increases** with the **spread of contagion** in Italy and other countries and then decreases in the last emergency period. Attention to this content **increases again** in the weeks of gradual **reopening** of activities and movements and then decreases later on

TREND OF TOTAL VISITS

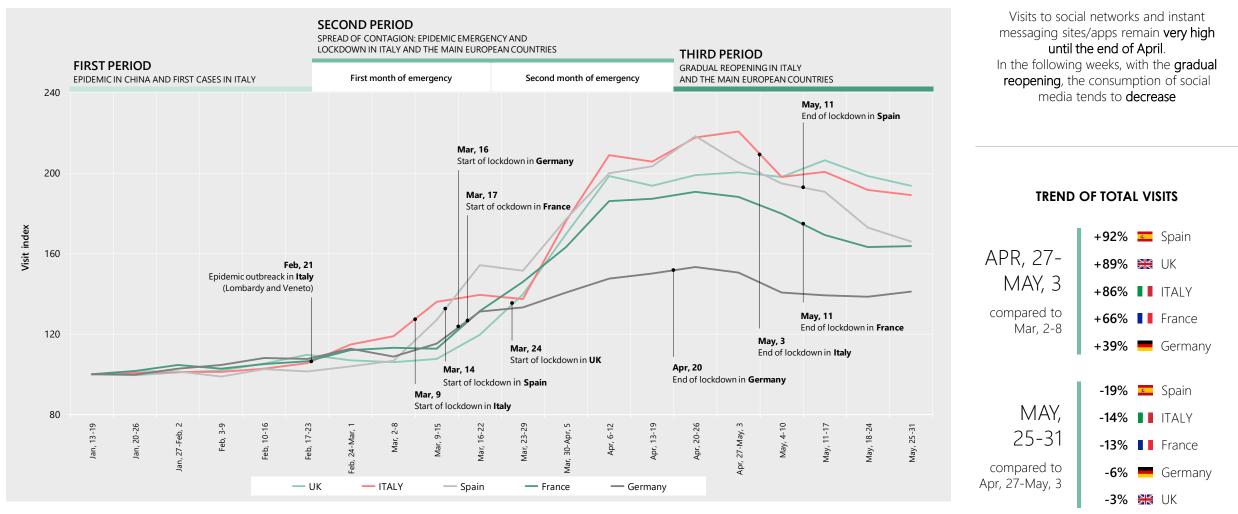


Note: for the Third Period, data on total visits to the sites in the "Government" category are available until the week May, 25-31

Source: elaborations on Comscore Custom Reporting,, Jan-May 2020, Italy



Total visits to social media (index)



Note: for the Third Period, data on total visits to the sites in the "Social media" category are available until the week May, 25-31

Source: elaborations on Comscore Custom Reporting,, Jan-May 2020, Italy

CYBERSECURITY THREATS AND CORONAVIRUS





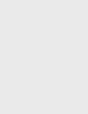


Targeted and persistent cyber attacks by subjects with considerable technical skills and resources

PHISHING

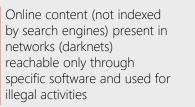


Email artifacts and/or malicious sites to induce the user to provide personal information or download files to infect the system. Similar attacks via SMS are called **Smishing**



DARK WEB





PASSWORD SPRAYING



Attack based on attempting to access multiple accounts using a small number of commonly used passwords (such as"Password1" or "Summer2017")



Attack, often aimed at creating image and credibility damage, based on the saturation of a computer system's resources, to make it unusable

RANSOMWARE



Malicious program that restricts the use of the user device by encrypting the data and asking the owner for a ransom to unlock it

MALSPAM



Massive sending of emails containing malicious attachments in order to infect computer systems and steal confidential information

SOCIAL ENGINEERING



Attack (not of a cyber type) based on socio-psychological strategies to extort personal or known confidential information from the user



Any form of code used to bring a computer system to perform unplanned operations. Examples of malware are: **Keylogger** and **Spyweare** (that record the user's actions);

SPEAR PHISHING



Phishing aimed at specific categories of users. The emails are built ad hoc, with content targeted to a specific field

MALWARE (MALICIOUS SOFTWARE)





MIRAI (that attacks IoT devices); RAT (that captures credentials and checks the machine); Trojan (that hides in seemingly harmless apps) e Stealer (that subtracts credentials and data

SPOOFING

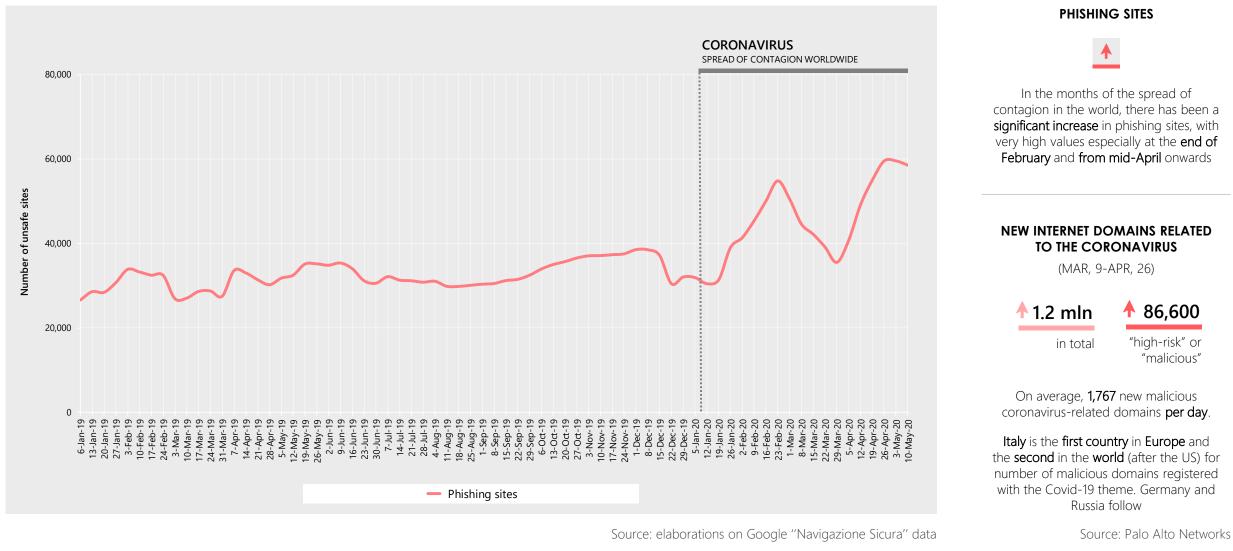


Attack technique that, in the context of e-mail, concerns the masking for malicious purposes of the source address of an e-mail



2 Growth of cyber threats during the epidemic

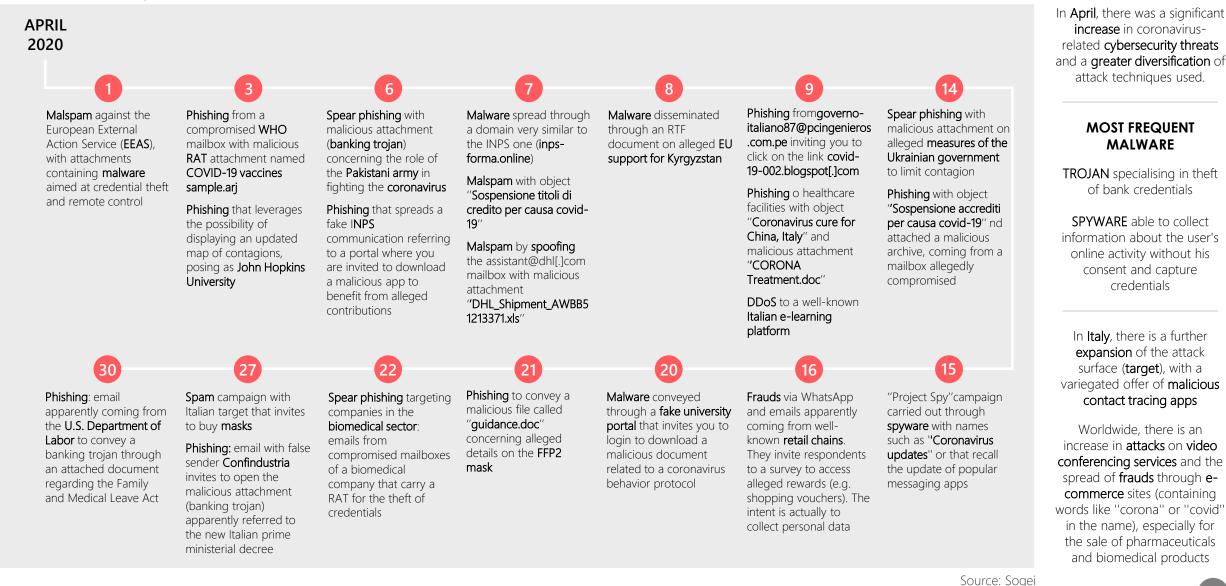
Phishing sites detected per week



19



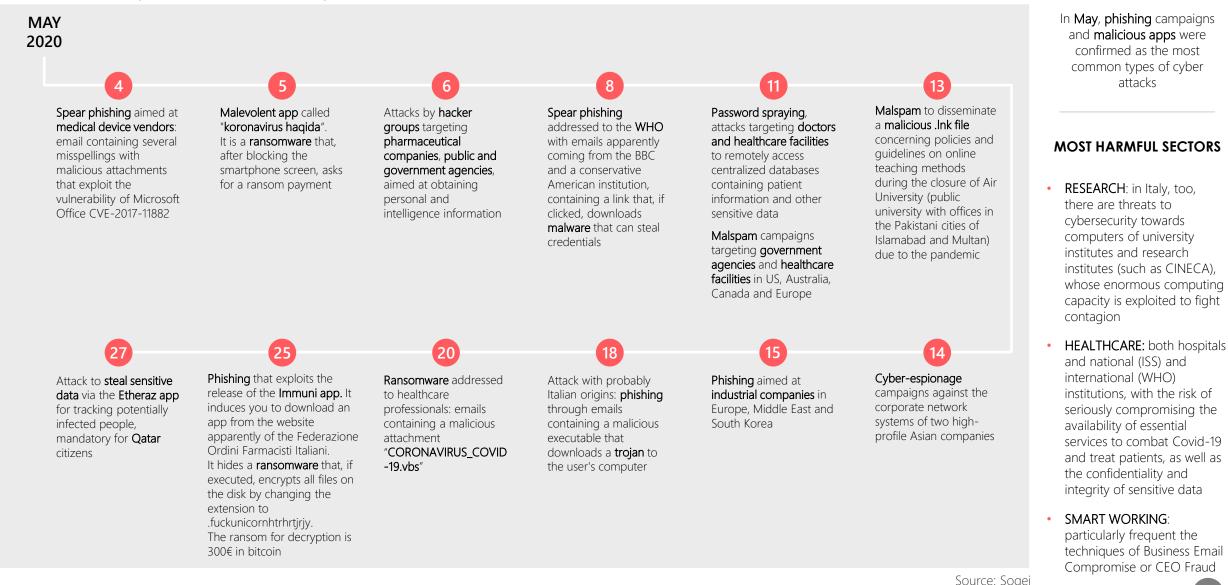
Timeline of the main cyber attacks detected in April



20



Timeline of the main cyber attacks detected in May



Department of Economics and Statistics

21)



22

xamples of phishing campaigns conveyed through malicious email about the coronavirus	Sender: mailbox,
	presumably compromised,
martedi 14/04/2020 12:19	is used to spread the
@libero.it	attack
Sospensione accrediti per causa covid-19	
A	
1 Messaggio con priorità Alta.	
Documento.rar 2 KB	
	Attachment: malicious archive
Gentili Sig.ri, in seguito alle ripercussioni finanziare dovute per la pandemia del virus covid-19, siamo costretti ed obbligati a lavorare secondo le disposizioni riassunte nel file in allegato a questa email aggiornabile on-line.	containing a .html file. If displayed, it opens an excel that downloads the malware via macro
Cordiali saluti	
PS: Per una corretta visualizzazione aprire il file solo su piattaforme windows	
	False sender: in order to give
	credibility, use the name of
lunedi 27/04/2020 11:12	the well-known Italian association
Comunicazioni CNVV <comunicaziioni@cnvv.it></comunicaziioni@cnvv.it>	association
Coronavirus - DPCM 27/04/2020 e commento di Confindustria	
🕕 Fare clic qui per scaricare le immagini. Per motivi di privacy, il download automatico di alcune immagini del messaggio non è stato eseguito.	
2399_DPCM_270420203641.iso _	
488 KB	Attachment apparently related to the new prime ministerial
	decree, hich is actually an .iso
Imme cho: con il guilante destro del mouse o boccare e Istener pientulo qui per scarcare le mnagoni. Rer protograre la privacy. Outido ha mnadeto d'ounitaid automatro delle immagni da lintenae.	file containing the malware
Gentili Associati, in allegato nuovo DPCM adottato ieri dal Governo, che proroga dal 28 aprile al 29 maggio 2020 le misure di sospensione delle attività produttive. Di seguito alcune osservazioni esplicative di Confindustria.	
Source: Sogei	



COMPOSITION OF DATABASES

If not differently stated, the figures reported in Section 1 of this Report, are the result of AGCOM elaborations carried out on a database built from data extrapolated through the platform developed by *Volocom Technology*.

More specifically, the analyzes were conducted on the entire textual content extrapolated from around 6 million documents created in Italy (from January 1 to May 31, 2020) by more than 2,000 information sources (national television and radio channels, newspapers, news agencies, websites of traditional publishers, native online news outlets, and related pages and accounts of social networks), and sources of disinformation (websites and social pages/accounts) identified as such by external subjects specialized in debunking activities. The amount of online disinformation produced in Italy was therefore estimated using a subjective methodology, i.e. considering the total number of documents created monthly by the aforementioned sources of disinformation.

The database is composed by the entire textual content of all documents produced during a day by every information and disinformation source. For document, we mean the entire article, in the case of newspapers and websites; the transcription of a transmission segment; in the case of Tv and radio; all tweets/posts in the case of online platforms.

The reference set of sources of information and disinformation is constantly updated. As a result, adjustments may need to be made to the estimates for previous periods, so that, for some indicators, there may be slight deviations in the values reported in different issues of the Report.

The same subjective definition was also used for the analyses in Section 2.

SUPPLEMENTARY DOCUMENTS

Further studies and updates on the AGCOM initiatives regarding online disinformation and the Covid-19 epidemic are available in a dedicated area of the AGCOM webiste: <u>Tavolo</u> <u>piattaforme digitali e Big data – Emergenza</u> <u>Covid-19</u>, and in the related pages <u>Covid-19</u> <u>per gli utenti</u>, <u>Fact-checking</u> and <u>GitHub</u>

A more detailed description of the methodology is presented in the AGCOM Report (2018),

News vs. fake in the information system More in-depth analysis on the definitions and technical dimensions of online disinformation are in the AGCOM Report (2018), <u>Online</u> <u>disinformation strategies and the fake</u> <u>content supply chain</u>, conducted within the <u>Roundtable on pluralism and online</u> <u>platforms</u>

The AGCOM policy recommendations and action plan on the online news system have been recently published in the <u>document</u> closing the <u>Sector Inquiry on digital</u> <u>platforms and the online information system</u> (2020)

www.agcom.it/osservatorio-sulla-disinformazione-online

CONTRIBUTIONS AND ACKNOWLEDGEMENTS

The realization of the Report on online disinformation – Special issue on Coronavirus is the result of monitoring activities based on the integration of multiple sources and the analysis, among other things, of a large amount of data made available by the participants of the **Roundtable on Digital Platforms and Big Data – Covid-19 Emergency**.

For the precious and active collaboration in the production of this issue, we would like to especially thank:

- Auditel
- Audiweb
- Comscore
- Sensemakers-Shareablee
- Sogei

The Report and, more generally, the Roundtable on Digital Platforms and Big Data can also benefit from the research results of the **Data Science Task Force** activated by AGCOM - Economic-Statistics Department on the theme of online disinformation during the Covid-19 emergency.

For the scientific cooperation and the continuous comparison on the most advanced study techniques and methodologies, we thank the research centres and academic institutions involved in the Task Force:

- Sapienza University of Rome, Physics Department
- Università Ca' Foscari di Venezia Research Institute for Complexity
- SONY Computer Science Lab Paris
- CNR Institute for Complexity Systems
- Enrico Fermi Study and Research Center

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