Interreg Co-funded by the European Union

Italy – Croatia

STRENGTH

D.1.1.3
Report on early warning systems in Ravenna

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Executive Summary

This report provides an overview of the early warning system adopted by the Municipality of Ravenna to enhance citizen preparedness and safety during emergencies. It begins with a brief description of the municipal territory, followed by an overview of the weather alert system of the Emilia-Romagna Region and its local applications.
The report then details the Alert System, introduced by the Municipality of Ravenna in 2023, explaining its operation, particularly in response to extreme weather events occurred. Additionally, it explores its integration with the national IT-Alert warning system to ensure coordinated emergency communication.
Finally, the report outlines the main risks for which the IT-Alert system is active in Ravenna, emphasizing the city's commitment to improving public safety and emergency preparedness.

1. Territorial description

The territory of the Municipality of Ravenna, located at the eastern end of the Emilia-Romagna plain, borders to the North with the municipalities of Comacchio and Argenta, to the West with the Municipalities of Alfonsine, Bagnacavallo and Russi, to the South with Cervia, Forlì, Bertinoro and Cesena, and to the East with the Adriatic Sea. The municipal territory covers an area of 652.3 km2.
The Municipality is included in the IGM sheets of the Topographic Map of Italy at 1:100,000 scale n° 89 and n° 100.
The length of the municipal territory in the North-South direction from Torre di Bellocchio to Mensa is 46 km; the extension in width in a West-East direction from Traversara to the mouth of the Fiumi Uniti is 23 km.
The coastline on the Adriatic Sea extends for 37 km.

The municipality is divided into 10 territorial areas:

1. Centro Urbano
2. Ravenna Sud
3. Darsena
4. S. Alberto
5. del Mare e
6. Castiglione
7. Mezzano
8. Piangipane
9. Roncalceci
10. San Pietro in Vincoli

The ones called Centro Urbano, Ravenna Sud and Darsena include the town center of Ravenna and the surrounding area; the territorial area of S. Alberto, del Mare and Castiglione, mainly cover the coastal area and surrounding areas; finally, the internal areas belong to the territorial areas of Mezzano, Piangipane, Roncalceci and San Pietro in Vincoli.

The territorial areas are further divided into hamlets, which in total in the Municipality of Ravenna are 60. The total resident population is 157,663 inhabitants (data updated as of 31.12.2018), which corresponds to a population density of 242 inhabitants/km2.

1. Frazione Prima
2. Gambellara
3. Punta Marina Terme
4. Frazione Seconda
5. Lido Adriano
6. Roncalceci
7. Frazione Terza
8. Lido di Classe
9. S.Alberto
10. Ponte Nuovo
11. Lido di Dante
12. S.Antonio
13. Ammonite
14. Lido di Savio
15. S.Bartolo
16. Bastia
17. Longana-Ghibullo
18. S.Marco
19. Camerlona
20. Madonna Dell'Albero
21. S.Michele
22. Campiano
23. Mandriole
24. S.P.in Campiano
25. Carraie
26. Marina di Ravenna
27. S.P.in Trento
28. Casalborsetti-Primaro
29. Marina Romea
30. S.P.in Vincoli
31. Casemurate
32. Massa Castello
33. S.Pancrazio-Ragone
34. Castiglione
35. Mensa-Matellica
36. S.Romualdo
37. Classe
38. Mezzano
39. S.Stefano
40. Coccolia
41. Pialassa Baiona
42. S.Zaccaria
43. Conventello-Grattacoppa
44. Piangipane
45. Santerno
46. Ducenta
47. Pineta Classe 1
48. Savarna
49. Durazzano
50. Pineta Classe 2
51. Savarna
52. Filetto
53. Pineta San Vitale
54. Savio
55. Fornace Zarattini
56. Porto Corsini
57. Torri
58. Fosso Ghiaia
59. Porto Fuori
60. Villanova

The altitudes vary between sea level and 20 m above sea level.
The Municipality is mainly affected by risks of a hydraulic and anthropic nature, depending on the morphology of the territory characterized by the primary network constituted by the Lamone, Montone and Ronco rivers, converging in the Fiumi Uniti, and by the secondary network represented by canals and streams, and by the presence of numerous factories at risk of major accidents involving hazardous substances (Seveso-III Directive) concentrated in the industrial area to the North-East of the town. It is also worth noting that the proximity of the city to the sea exposes it to potential risks caused by critical states of the sea, such as the phenomenon of marine intrusion.
The management of the critical issues deriving from the above risks is included in the municipal Civil Protection Plan, which contains the intervention procedures in the event of an emergency situation.
Among the main tasks attributed to the Mayor, we would like to further highlight the activity relating to informing citizens; in this regard, we mention the importance of correct communication to citizens about the risks they are potentially exposed to and effective sharing of the practices to be implemented in the event of emergency situations.

Below are the systems with which the Municipality is equipped for the management of communication to citizens in the event of foreseen critical issues or identified emergencies.

2. Weather alerts

For the Emilia Romagna Region, an essential tool for obtaining information on the risks linked to meteorological and climatic events is represented by the Emilia Romagna Weather Alert portal https://allertameteo.regione.emilia-romagna.it/, managed by Arpae Emilia-Romagna (Regional Agency for Prevention, Environment and Energy of Emilia-Romagna) and the Regional Agency for Territorial Security and Civil Protection.
The municipality of Ravenna, being a territory of the Region, has adopted its use by signing a specific protocol.

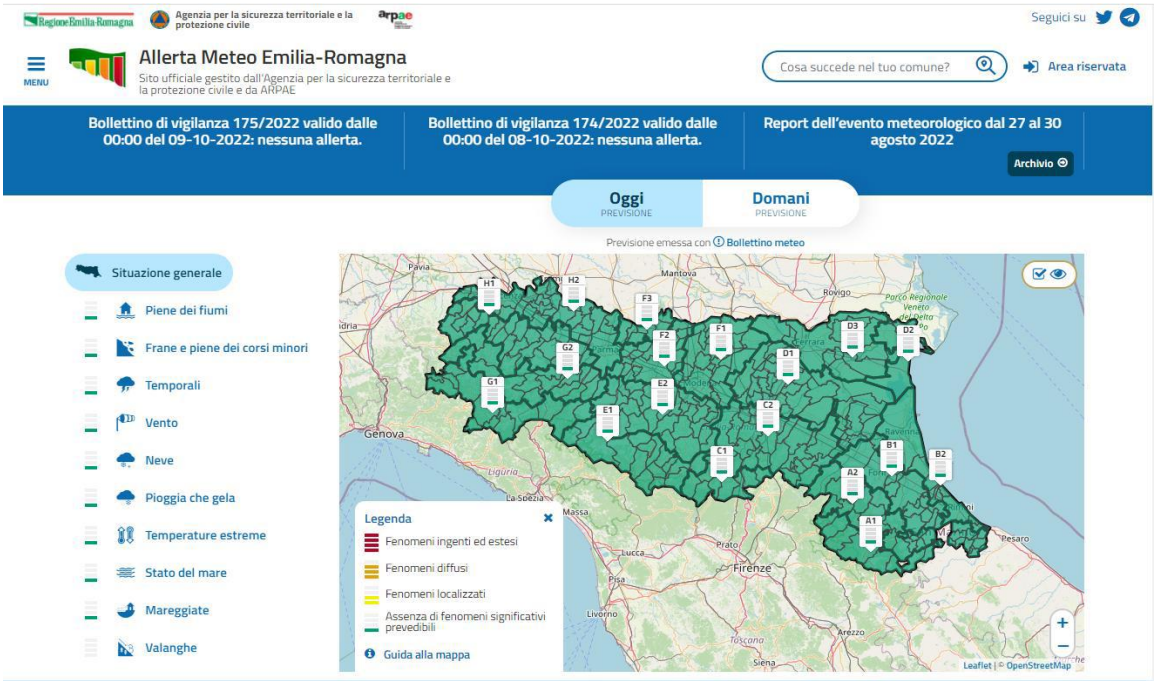

Figure 1

According to Italian legislation, the Mayor has to provide preventive and emergency information to the population on possible dangerous situations.
Continuous communication with citizens is aimed first and foremost at limiting injuries or loss of human life as well as reducing the destruction of material assets through information on the correct behavior to adopt in emergency situations.

Upon the release of each alert document, the Mayor of the Municipality of Ravenna promptly communicates it to the citizens through press releases and messages on social media.

The alert document is normally made up of two pages. If the forecast is expected to be updated for the second half of the current day, a further page is added with the map and the relevant table for the 12 hours of the same day (12:00-24:00).

The header shows the number of the document (ordered progressively from the beginning of the year), the date and time of issue, the date and time of start and end of validity.

The first page (or the first two in the case above) shows a map which matches each area to the determined color code, which by convention will be the highest level among the different phenomena expected in the same area.

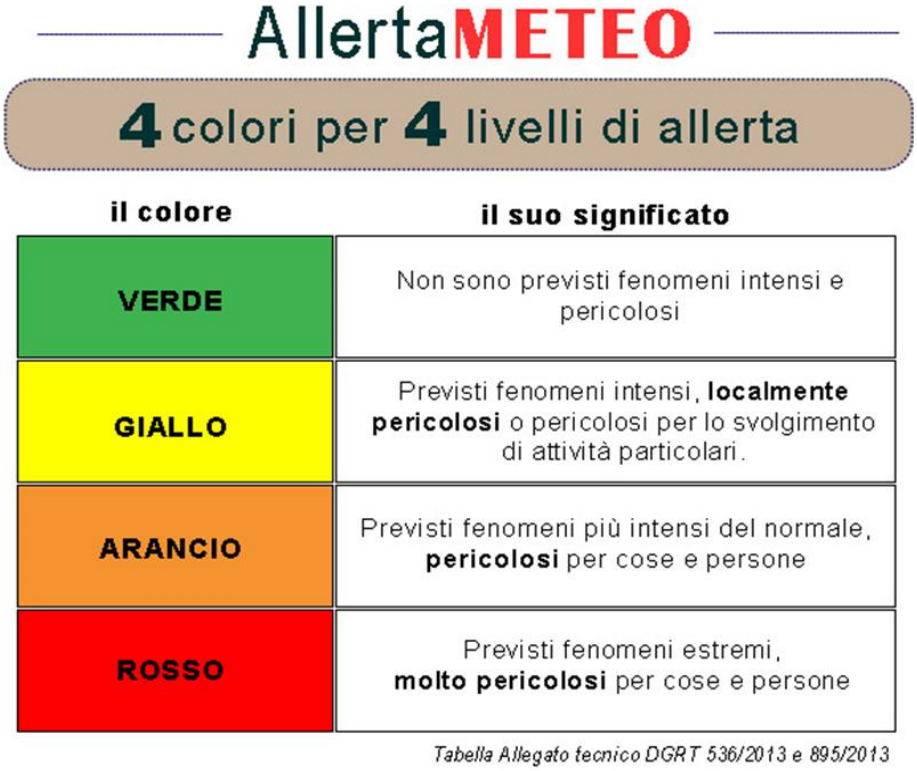

Figure 2

Four colors define four alert levels

- Green: No intense or dangerous phenomena expected.
- Yellow: Local dangerous phenomena are to be expected; that could also mean the danger is limited to certain activities.
- Orange: Intense phenomena are to be expected, dangerous to people and property.
- Red: Extreme and very dangerous phenomena are to be expected.

RegioneEmiliaRomagna

ALLERTA
METEO-IDROGEOLOGICA-IDRAULICA
arpae

DOCUMENTO N.	DATA EMISSIONE	INIZIO VALIDITA'	FINE VALIDITA'
168/2024	20/12/2024 12:03	20/12/2024 12:00	22/12/2024 00:00

dalle ore 12:00 di venerdì 20/12/2024

ZONE DI ALLERTA:

A1: Montagna romagnola (FC, RN)
A2: Alta collina romagnola (RA, FC, RN)
B1: Bassa collina e pianura romagnola (RA, FC, RN)
B2: Costa romagnola (RA, FC, RN)
C1: Montagna bolognese (BO)
C2: Collina bolognese (BO, RA)
D1: Pianura bolognese (BO, FE, RA)
D2: Costa ferrarese (FE)
D3: Pianura ferrarese (FE)
E1: Montagna emiliana centrale (PR, RE, MO)
E2: Collina emiliana centrale (PR, RE, MO)
F1: Pianura modenese (RE, MO)
F2: Pianura reggiana (RE)
F3: Pianura reggiana di Po (PR, RE)
G1: Montagna piacentino-parmense (PC, PR)
G2: Alta collina piacentino-parmense (PC, PR)
H1: Bassa collina piacentino-parmense (PC, PR)
H2: Pianura piacentino-parmense (PC, PR)

	CRITICITA' IDRAULICA	CRITICITA' IDROGEOLOGICA	CRITICITA' PER TEMPORALI	VENTO	TEMPERATURE ESTREME	NEVE	PIOGGIA CHE GELA	STATO DEL MARE	CRITICITA' COSTIERA
A1	GIALLO	GIALLO	VERDE	ARANCIONE	VERDE	GIALLO	VERDE		
A2	GIALLO	GIALLO	VERDE	ARANCIONE	VERDE	VERDE	VERDE		
B1	GIALLO	GIALLO	VERDE	ARANCIONE	VERDE	VERDE	VERDE		
B2	GIALLO	VERDE	VERDE	ARANCIONE	VERDE	VERDE	VERDE	ARANCIONE	GIALLO
C1	GIALLO	GIALLO	VERDE	GIALLO	VERDE	VERDE	VERDE		
C2	GIALLO	GIALLO	VERDE	VERDE	VERDE	VERDE	VERDE		
D1	GIALLO	VERDE	VERDE	GIALLO	VERDE	VERDE	VERDE		
D2	VERDE	VERDE	VERDE	ARANCIONE	VERDE	VERDE	VERDE	ARANCIONE	GIALLO
D3	VERDE	VERDE	VERDE	VERDE	VERDE	VERDE	VERDE		
E1	VERDE	GIALLO	VERDE	VERDE	VERDE	VERDE	VERDE		
E2	GIALLO	GIALLO	VERDE	VERDE	VERDE	VERDE	VERDE		
F1	ARANCIONE	VERDE	VERDE	VERDE	VERDE	VERDE	VERDE		
F2	ARANCIONE	VERDE	VERDE	VERDE	VERDE	VERDE	VERDE		
F3	ARANCIONE	VERDE	VERDE	VERDE	VERDE	VERDE	VERDE		
G1	VERDE	GIALLO	VERDE	VERDE	VERDE	VERDE	VERDE		
G2	VERDE	GIALLO	VERDE	VERDE	VERDE	VERDE	VERDE		
H1	VERDE	VERDE	VERDE	VERDE	VERDE	VERDE	VERDE		
H2	VERDE	VERDE	VERDE	VERDE	VERDE	VERDE	VERDE		

Figure 3

The map is followed by a table which shows the detail of the color code for each expected phenomenon, for each area. The grey color on a box indicates that, due to the nature of the phenomena and/or the current season, no assessment is carried out: this is the case for example of coastal criticality, which is not assessed in areas other than B2 and D2 (coastal areas), or the case of snow and freezing rain, which are not assessed in summer.

DESCRIZIONE DEI FENOMENI

Per la giornata del 1 gennaio sono previste precipitazioni diffuse sull'Emilia, più intense sul settore occidentale, dove sui rilievi potranno essere a carattere di rovescio. Le precipitazioni sono previste nevose fino a quote di pianura sulla provincia di Piacenza e parte di quella di Parma. Quota neve intorno 800 metri sul resto dei rilievi centrali.
Possibili fenomeni di pioggia che gela nelle vallate montane fra le provincie di Parma, Reggio Emilia e Modena.
Intensificazione dei venti da sud dalla serata sull'appennino romagnolo.
Relativamente alla macroarea D2 le previsioni di altezza d'onda e di livello del mare sono sotto la soglia di attenzione; tuttavia, considerando lo stato di vulnerabilità delle spiagge dovuto ai precedenti eventi, non si escludono locali fenomeni di ingressione marina.

Tendenza nelle successive 48 ore: ☐ intensificazione ☐ stazionarietà ■ attenuazione ☐ in esaurimento

NOTE

RIFERIMENTI E CONTATTI

Per approfondimenti sul contenuto del presente documento e la consultazione dei dati in tempo reale:
https://allertameteo.regione.emilia-romagna.it

Per ulteriori informazioni di carattere meteorologico:
Centro Funzionale Regione Emilia Romagna – Arpae Servizio Idro-Meteo-Clima
https://www.arpae.it/sim/
tel: 051 649 7600 (segreteria telefonica previsioni)
email: centrofunzionalerer@arpae.it
pec: centrofunzionale.emilia-romagna@cert.arpa.emr.it

Per ulteriori informazioni di protezione civile:
Agenzia per la sicurezza territoriale e la protezione civile – Emilia Romagna
http://protezionecivile.regione.emilia-romagna.it/
Centro Operativo Regionale lun. - sab. 08:00-20:00 - 051 527 4440/4200
Centralino Agenzia regionale attivo H24 - 051 527 4404
email: procivcor@regione.emilia-romagna.it

IL DIRIGENTE REFERENTE CENTRO FUNZIONALE

PER IL DIRETTORE
AGENZIA REGIONALE PER LA SICUREZZA TERRITORIALE E LA PROTEZIONE CIVILE

Figure 4

On the last page, in the "Description of phenomena" box, the space-time evolution of the phenomena covered by the alert is described in general terms during its validity period. By checking the items "intensification", "stationarity", "attenuation" or "exhaustion", the trend of the phenomena covered by the alert foreseen in the 48 hours following the validity period is indicated.
The "Notes" box is filled in if it is necessary to provide any detailed information or report on particular situations in the area.

3. Alert System

During the first months of 2023, the Municipality of Ravenna got equipped with "Alert System", a service that allows to promptly inform citizens through phone calls about emergency or critical situations, such as adverse weather conditions, hydraulic emergencies or other events relevant to public safety.
Alert System reaches citizens through phone calls with recorded voice messages (by a Municipality operator or via a synthesized voice of the system) in an unlimited manner to the lists automatically created on the platform which are:
TELEPHONE USERS (landline telephone numbers of citizens of Ravenna)
BUSINESS USERS (telephone numbers of commercial activities in Ravenna)
WEB NUMBERS (online registrations of citizens' mobile or landline numbers)
MOBILE APPLICATION NUMBERS (mobile numbers of citizens who have downloaded the ALERT SYSTEM APP).
The system makes automatic calls to the landline numbers in the public directories, using the number 0544 485848 as the caller ID. Citizens are invited to answer these calls to listen to the recorded information message.

If they are temporarily unable to respond, it is possible to contact the same number to which an automatic responder is connected which allows citizens who have not responded to the campaign to listen again to the message they lost or did not understand on the first listen.
In order to reach citizens who only use mobile phones, an online registration platform has been set up.
Through the link https://registrazione.alertsystem.it/ravenna, users can enter their mobile number to receive alerts. Once registered, they will receive emergency communications directly on their mobile device.
Thanks to the presence of the street directory on the registration page, the organization can have the precise indication of the citizen's address, and optimally divide the database collected into hamlets, localities or individual streets, through the function “SEARCH NUMBERS”. For further needs, the Municipality can create an unlimited number of lists through the "Lists management".

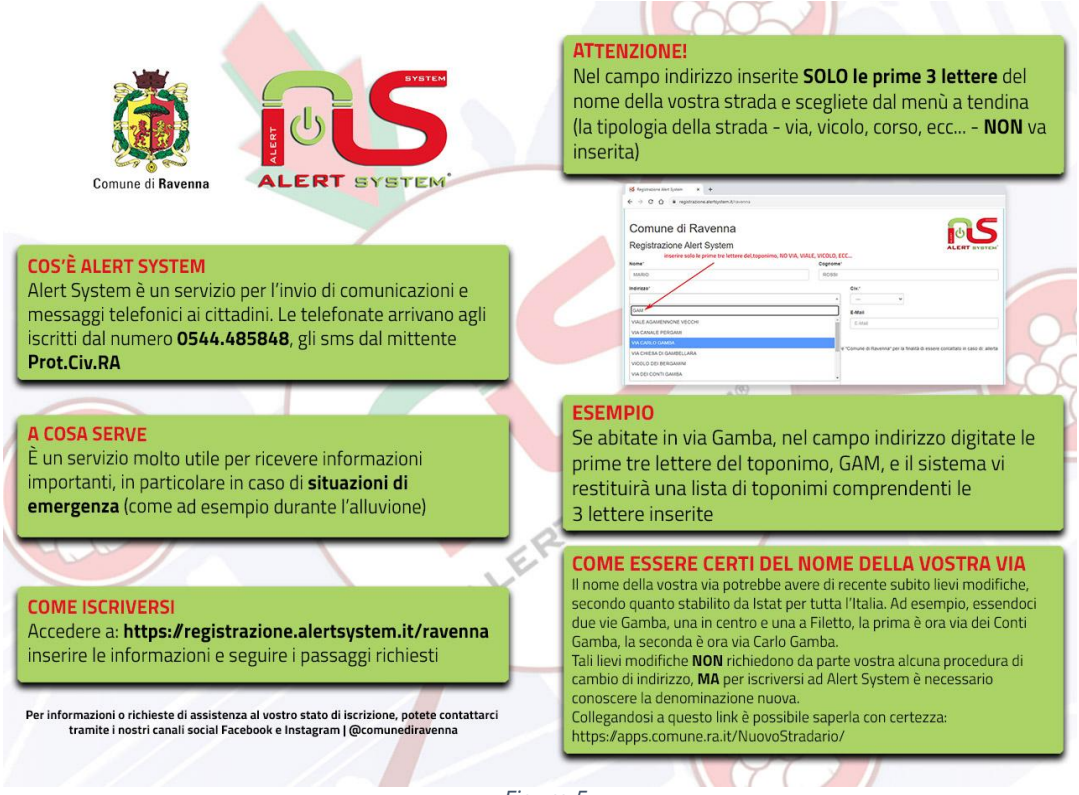

Figure 5

During the recent emergency situations faced by the Municipality in case of hydraulic criticality it was possible, thanks to the collaboration of the SIT - Territorial Information System office, to interpolate the toponymic data extrapolated from the Alert System portal with the territorial cartography to circumscribe the most likely affected areas by the flood phenomena according to the morphological characteristics and to convey communications relating to alerts and evacuations only to the areas involved, avoiding the onset of further critical issues due to the management of human flows.

The same mechanism is applicable to all the main emergency situations that potentially affect the territory of the Municipality of Ravenna: the division into districts or areas of limited extension based on the probable incidence of a given risk makes it easy to use the service for sending targeted telephone communications without encountering problems relating to an overextension of information.

In addition to weather alert situations due to hydraulic criticalities, during which Alert System has already been effectively used by the Municipality of Ravenna to notify citizens of any critical issues that may arise or to share the issuing of evacuation orders limited to specific areas, the telephone alert system limited to areas of interest reveals to be crucial for reporting alerts due to sea conditions, tsunamis, emergency situations within or in close proximity to establishments at risk of a major accident, and in all circumstances in which delimiting the message conveyance area is essential to better organize and manage rescue activities.

Figure 6

Alert System is used to communicate different types of alerts, including:

- Weather Alerts: Information on adverse weather conditions such as intense thunderstorms, heavy snowfall or strong winds.
- Hydraulic Emergencies: Warnings regarding possible flooding, river flooding or critical issues related to the water system.
- Other Emergencies: Any other situation that may pose a risk to the population, such as fires, evacuations or health emergencies.

In addition to sending voice messages, the Alert System App helps the Municipality reaching the community by sending SMS to registered numbers, faxes and push notifications to users who have downloaded the app.

The application can be downloaded for free and allows the Municipality to disseminate further information to citizens through markers on a map and the insertion of information pages, as well as the possibility of listening to any recorded message.

The Alert System platform, through the "Social" section, allows users to quickly access the Municipality's Facebook, Twitter and Telegram accounts, and publish information.
Through the app account, detailed statistics on all the activities carried out (message recording, selected users, time of sending the campaign, % response) can be consulted in real time or subsequently to verify and certify the campaigns carried out.

Figure 7

The service is active 24 hours a day, 365 days a year and the Municipality can access it using its credentials, at any time, or take advantage of 24-hour assistance, via a specialized telephone operator, who will support the Authority in using the system.
Alert System, therefore, represents an essential tool for quick and effective communication between the municipal administration and citizens in emergency situations. The active participation of citizens, through the registration of their mobile phone numbers, is crucial for the success of the system and for collective security; the Municipality maintains a constant commitment to raising awareness of participation in the service. The Municipality remains committed to raising awareness for service participation.

Currently, Alert System reaches around a third of the population of Ravenna, including telephone numbers taken from school directories.
As of January 9, 2025, the updated number of registered users is:

- Around 45,000 mobile numbers;
- Around 12,000 landline numbers.

The massive participation of citizens guarantees the effectiveness of the system with a widespread diffusion of communications and has made it possible to transmit information of primary importance to citizens during the flood events that affected the municipal territory in May 2023 and September and October 2024.

In fact, during the 2023 flood, for certain critical updates (such as evacuation notices), direct phone calls to citizens were made using the Alert System. Additionally, video messages from the mayor were created and shared through social media and through the same channels as official announcements and press releases. Local Police patrols and Civil Protection volunteers were also deployed to provide on-the-ground communication to residents.
From May 9 to May 24, 2023, 22 messages were sent to contacts via the Alert System, and 1,028,973 phone calls were made. During this period, the number of registered users in the Alert System grew from approximately 9,000 to over 50,000.
It is worth noting that the response rate of citizens to telephone calls sent via the Alert System exceeds 80%.

Figure 8

Today, Ravenna is among the leading cities in Italy in terms of citizen registration and response rate, largely due to the challenging experience of the flood and the recurrence of exceptionally intense weather events that continue to require evacuations.

4. IT-alert

In addition to the "Alert System" used and managed directly by the Municipality of Ravenna, the national "IT-Alert" system is also available for reporting particularly critical situations.

IT-alert is the national public alert system for direct information to the population, which sends useful messages to mobile phones in a specific geographical area in the event of serious emergencies or imminent or ongoing disasters.
The IT-alert message, once transmitted, is received by anyone who is in the area affected by the emergency and has a mobile phone switched on and connected to the cell phones. Users in the affected area receive a text message, accompanied by a clearly recognizable sound that is different from classic ringtones. The text is preceded by the indication “IT-alert”, which corresponds to the sender of the message.

The system has been in operation since 2022 through the first experiments: in this phase of first operation of the system, the Department of Civil Protection sends the IT-alert messages but, in perspective, as foreseen by the Directive of the Minister for Civil Protection and Maritime Policies of 7 February 2023, all components of the National Civil Protection Service will be able to use IT-alert directly.
The national public alert system integrates the existing information and communication methods for the different risk scenarios, with the aim of encouraging the rapid dissemination of initial information on possible dangerous situations among the population and the adoption of self-protection measures in relation to the specific type of risk.

Since 13 February 2024 the IT-Alert system has been operational exclusively for the following civil protection risks:

- Nuclear accidents or radiological emergency situation.
- Major accidents in industrial plants.
- Collapse of a large dam.
- Volcanic activity in the areas of Campi Flegrei, Vesuvius and the island of Vulcano.

For the following risks, however, the testing phase is extended by one year:

- Tsunami generated by an earthquake.

- Volcanic activity of Stromboli.
- Heavy rainfall.

IT-Alert is a public service which promotes timely information to people potentially involved by sending messages to devices present in the area affected by a serious emergency or an imminent or ongoing catastrophic event, with the aim of minimizing individual and collective exposure to danger.
IT-Alert messages travel via cell-broadcast. Every mobile device connected to the cells of the mobile operators' networks, if turned on, can receive an "IT-Alert" message. Thanks to cell-broadcast technology, IT-Alert messages can be sent within a group of geographically close telephone cells, capable of delimiting an area that corresponds as closely as possible to that affected by the emergency.

Cell broadcast also works in cases of limited range or in cases of saturation of the telephone bandwidth.

The devices do not receive IT-Alert messages if they are turned off or without reception and may not ring if the ringtone is silenced.
Although it is not necessary to download any app to receive IT-Alert messages, in some cases it may be necessary to check the device before the configuration, such as if a backup has been restored or if you are using an old version of the operating system.
The IT-Alert service, as required by the EU Directive 2018/1972 for public alarm systems and the Italian Electronic Communications Code, is activated in the event of serious emergencies or imminent disasters.

The messages are different depending on the emergency scenario.
For the municipality of Ravenna, the IT-alert system can currently be used to manage the following risks:

4.1. Major accidents in industrial plants

In the event of real danger due to a major accident in an industrial plant, the mobile phones in the areas near the plants involved will receive an IT-alert message of this type:

Civil Protection Alarm DD/MM/YY 00:00 - Accident in the XYZ industrial plant with presence of dangerous substances, in the Municipality of XYZ (PROVINCE). FIND SHELTER INDOORS AND DO NOT GO NEAR the system. Keep up to date and follow the instructions of the authorities.

In Italy there are currently over 900 industrial plants which, for their activities, use specific dangerous substances in quantities such as to be classified as having a "major accident risk" (at this link https://www.rischioindustriale.isprambiente.gov.it/seveso-query-105/inventario_listatolist.php?t=inventario_listato&recperpage=ALL the constantly updated list). An accident in such factories can, in fact, cause a fire, an explosion or a toxic cloud with serious, immediate or deferred danger to human health and the environment. The industrial risk from major accidents is governed by European legislation, also consolidated at national and regional level following serious accidents including the Italian case of Seveso in 1976.
The IT-Alert message will be sent to the mobile phones of those within a two-kilometer radius of the plant to inform them of the possible danger.

4.2. Collapse of a large dam

In the event of real danger due to the collapse of a large dam, cell phones located in the municipalities potentially affected by the flood wave will receive an IT-alert message of this type:

Civil Protection Alarm DD/MM/YY 00:00 - XYZ DAM COLLAPSE in the Municipality of XYZ (PROVINCE): possible flash flood. GET AWAY FROM WATER COURSES and reach higher areas. Keep up to date and follow the instructions of the authorities.

The IT-alert message is sent to warn the population of the municipalities downstream of a dam of the possible occurrence of a flash flood and currently only concerns large dams with an updated civil protection document.
In Italy there are currently over 500 large dams (at this link https://www.dighe.eu/dati/grandi_dighe_italiane.htm the list) i.e. works that are higher than 15 meters or that can retain a volume of water exceeding 1 million cubic meters and, of these, approximately 300 have the updated civil protection document.
To guarantee the safety of the dam and the downstream territories, procedures are defined which provide for the activation of the National Civil Protection Service. In particular, various alert phases are foreseen to signal situations of increasing severity which may give rise to flooding of the downstream territories.

The most serious phase is that of "collapse" which is declared when structural damage occurs to the dam, landslides capable of causing the uncontrolled release of water, or other phenomena that can lead to a catastrophic event, with loss of human life or extensive damage.

4.3. Nuclear accidents or radiological emergency situation

In the event of real danger from a nuclear accident, concerned cell phones present in the Italian territory will receive an IT-alert message of this type:

Civil Protection Alarm DD/MM/YY at 00:00 - Alarm - Accident in the XYZ nuclear plant (FOREIGN COUNTRY). Possible passage of the radioactive cloud. The evolution of the situation is being monitored. Keep up to date and follow the instructions of the authorities.

In Italy there are no nuclear power plants in operation, while in some countries bordering Italy there are active nuclear plants for energy production. To deal with possible accidents beyond national borders, the National Plan for the management of radiological and nuclear emergencies was adopted, which hypothesizes three accident scenarios based on the distance of the event from national borders.
The scenario taken into consideration by the IT-Alert public warning system is that of a nuclear accident within 200 kilometers of the Italian border, which corresponds to the "ALARM" operational phase of the Plan.
Considering that there are nuclear plants for the production of energy in France, Switzerland, Germany and Slovenia, which are located within a distance of 200 kilometers from the borders of Italy, the territory potentially affected by the sending of the IT-alert message are the areas in the North and Central-North of the Country, as described in the plan.

The use of the alert system is constantly improved: to guarantee its full efficiency in the emergency phase, periodic tests are carried out in the area with simulation of targeted alerts, to evaluate overshooting and the percentage of users reached. Specifically, the Municipality of Ravenna was involved in two different tests, which took place in December 2024, for the simulation of an accident in a Seveso-III plant within the municipal territory and for the simulation of the collapse of the Ridracoli dam. Both tests had positive results.