

Technical information sheet:

The national warning system "LU-Alert"

1. Background and context

Warning the population is essential in order to offer the citizens of Luxembourg all the means at their disposal to be able to prepare for an event, whether unforeseeable or not, and to take the necessary precautions to protect people and property. It is a tool that improves the resilience of the population.

A first milestone was set on October 2nd, 2018, when the "GouvAlert" mobile application was presented, whose primary functionality was to make it possible, in the event of an emergency with an impact on public safety, to warn citizens who do not always have access to traditional sources of information. The application also made it possible to locate callers when 112 was directly dialed through the application.

However, with the idea of modernising and supplementing the information and warning system then in place, the government council, at its meeting of February 7th, 2020, asked the Minister for Home Affairs to overhaul the public warning system.

This was part of the implementation of Directive (EU) 2018/1972 establishing the European Electronic Communications Code, which has been transposed into national law by the *loi du 17 décembre 2021 sur les réseaux et les services de communications électroniques*.

A preliminary analysis made clear that the public warning and information system needed to be adapted to modern times and technological innovation. To achieve this, the ministerial department in charge of the project, in close collaboration with the government IT Centre (CTIE), decided to carry out the overhaul of the warning system in two stages.

In the first phase, it was decided to improve the existing means that had been used until then to inform or warn the population in the event of a major event. More specifically, the aim was to regularly test the functionality of the sirens, the zonal SMS and the "GouvAlert" mobile application.

The results of this phase enabled the Minister for Home Affairs to draw useful conclusions and to define, for the second phase, the development of a modern and consistent national multi-channel warning system equipped with new accessible technologies, including Cell Broadcast and location-based SMS.

The core of the new "LU-Alert" solution is a state-owned electronic platform (Broker) which will be used by all public authorities transmitting information and warning messages to the population. This platform is linked to the various warning channels to ensure that the messages transmitted are harmonized and consistent, thereby multiplying the sources of information and feeding them: social media, websites, mobile applications, location-based SMS, Cell Broadcast, etc.



Following a public tender in 2022, the Broker was developed by the French company Intersec S.A., which also set up FR-Alert in France.

The transmission of messages cannot work without mobile network operators, who also had to set up the necessary infrastructure to guarantee on the one hand, their interoperability with the state platform and on the other hand, the transmission of information and warning messages.

2. Operation

The new "LU-Alert" warning system is based on the above-mentioned platform to which the various public authorities are connected, which are led by their respective missions to trigger warning and information messages to the population. The authorities enter their message in the platform, indicate the geographical area where the population needs to be warned or informed and choose the warning channels appropriate to the situation encountered.

Currently, public authorities can send messages through the following channels:

- By location-based SMS (LB-SMS);
- By Cell Broadcast (CB);
- On the new "LU-Alert" mobile application;
- On the www.lu-alert.lu website (and on the websites of the public authorities involved).

It is planned to connect additional channels (e.g. digital screens, sirens, social media, data.public.lu) to the electronic platform so that they can also be triggered from there. In practice, some of these warning channels are triggered manually or individually.

The triggering of warning and information messages to the population via location-based SMS and Cell Broadcast sends a request to the mobile network operators to transmit the messages entered in the platform by the various public authorities. The mobile network operators then transmit these messages to the population, via their own equipment, without any modification. The sending of warning and information messages to the population via the "LU-Alert" mobile application and via the www.lu-alert.lu website (and the websites of the public authorities involved) is done directly from the platform, without any intermediary.

The public authorities connected to the platform on the day of the roll-out of the LU-Alert system, are:

- The Water management agency (AGE);
- The Luxembourg Veterinary and Food Administration (ALVA);
- The Luxembourg Fire and Rescue Corps (CGDIS);
- The High Commission for National Protection (HCPN);
- The meteorological department of the Air Navigation Administration (MeteoLux);
- The Ministry of Foreign and European Affairs, Defence, Development Cooperation and Foreign Trade;
- The Luxembourgish Police.

However, it is planned to involve other public authorities in the course of time.



3. A future-oriented multi-channel system

With the new LU-Alert warning system, the existing channels will be replaced by the new ones due to their adaptability, modernity, and technological innovation. Some other new channels will be added. The public authorities will choose among the warning channels of the LU-Alert system, according to their suitability with the impact and severity of the event about which it is necessary to warn or inform the population. To do this, the authorities will follow the principles established in a common governance that has been approved by the Government Council.

a) LU-Alert mobile application

The "LU-Alert" mobile application can be downloaded free of charge from the Apple App Store and Google Play Store.

The mobile application will enable users to follow all the alerts and information issued by the public authorities via the "LU-Alert" system. It will also allow users to customize the use of it according to their preferences and needs. Users will be able to choose the categories and alert levels they wish to be warned or informed about, or to define places of interest (your place of residence, children's school, etc.). If you want to be warned or informed about events taking place in your current location, you can activate the geolocation of the mobile device on which the "LU-Alert" application is installed. It is therefore an application that is customizable according to the needs of each person.

It should be noted that the State does not collect any location data (for more information, please visit the www.lu-alert.lu website for detailed information on the processing of personal data).

b) Location-based SMS

The sender of the warning and information messages sent via the location-based SMS warning channel is always "LU-Alert".

The triggering of warning and information messages to the population by the public authorities sends a request to the mobile network operators to transmit the messages entered in the platform. The mobile network operators then transmit these messages to the population, via their own equipment without any modification. All mobile devices that are in the targeted area when the messages are triggered will receive them.

The location-based SMS messages are also transmitted on mobile devices managed by foreign mobile network operators.

It should be noted that the State does not process any personal data when triggering location-based SMS (for more information, please visit the www.lu-alert.lu website for detailed information on the processing of personal data).

c) Cell Broadcast

Cell Broadcast is a new and very intrusive warning channel. *Cell Broadcast* messages take the form of priority notifications that are displayed on the mobile device's screen even if the device is on silent



mode or locked and can be accompanied with an audible alert or a vibration. After a few seconds, the alert will stop ringing by itself.

Warning and information messages to the population sent by Cell Broadcast are triggered in the same way as for location-based SMS, except that only mobile devices compatible with the reception of Cell Broadcast messages will receive this type of message (for more information, please visit the www.lu-alert.lu website which contains detailed information on mobile device compatibility).

Messages sent by Cell Broadcast are also transmitted to mobile devices managed by foreign mobile network operators.

d) www.lu-alert.lu website

All the warning and information messages from the "LU-Alert" system can be viewed on the www.lu-alert.lu website. This official website will contain all the alerts and information sent via the electronic platform and will provide information on the new system. Furthermore, the website will allow to verify the authenticity of the messages received from the "LU-Alert" sender.

The existing official websites, specific to each public authority, will be maintained:

- Weather information will still be available on the www.meteolux.lu website of the Air Navigation Administration's meteorological department.
- Current water levels and forecasts from water level stations as well as flood forecasts will be available on the Water Management Agency's flood forecasting service www.inondations.lu site.
- Information on food safety will be available on the www.securite-alimentaire.lu website of the Luxembourg Veterinary and Food Administration.
- Information on civil or public security or public safety events will be available on the websites www.112.lu of the Luxembourg Fire and Rescue Corps (CGDIS), www.police.lu of the Luxembourgish Police and www.infocrise.lu of the High Commission for National Protection.

e) Sirens

In Luxembourg, sirens have been used for a long time and are regularly tested in the event of a nuclear or radiological accident. However, it is also planned to use them in other situations, always in combination with another warning channel in order to provide details about the situation encountered.

Sirens are an important warning channel because they can quickly and effectively warn about a significant or imminent danger.

Nowadays, the sirens are triggered manually or individually, but it is planned, as mentioned above, to connect them to the aforementioned electronic platform in order to be able to trigger them from there as well.



4. Test week to check the functionality of the new warning channels

The roll-out of the new "LU-Alert" warning and information system, which takes place on 17 October 2024, will be accompanied by a week of testing during which the new warning channels will be tested one by one under real conditions to ensure their technical functionality.

The tests will be carried out on different scales, namely there will be local tests and national tests, meaning that not all people will receive all the test messages.

