
SUMMA 112

Servicio de Urgencia

Médica de Madrid

Global Emergency Management for rapid and effective response



GEMMA, the emergency management solution by Atos, helps emergency coordination centers prioritize calls according to specific criteria and deliver the most appropriate response based on the nature of the incident and also the geographic location. GEMMA helps staff cope not just with everyday accidents and emergencies but also major sporting or cultural events, disasters and routine non-urgent transportation tasks.

The sophisticated command, control and communications capabilities integrated in GEMMA allow operations and resources to be monitored in real-time and permit, for example, vital signs data taken at the scene of an accident to be transmitted to the waiting hospital before the patient has arrived.

GEMMA is the end-to-end solution for emergency management that optimizes resources, reduces response times and, most importantly, saves lives.

Vital coordination

Emergency services receive many calls each day and lives depend on the speed and effectiveness of their response. SUMMA 112, the organization responsible for coordinating medical emergency services in the Madrid region, turned to Atos to integrate and improve its emergency management processes.

Most incidents have a happy ending thanks to the professionalism and dedication of SUMMA 112, the organization responsible for providing medical emergency services in the Madrid region, and the Atos Global Emergency Management (GEMMA) solution.

Of the more than 12m calls that SUMMA 112 handles each year – one every 30 seconds – around 60,000 fall into the emergency category and SUMMA 112 staff know that lives may depend on how quickly and effectively they respond to these calls.

They must get accurate information from callers who are often distressed and decide in just a few seconds what priority to give the incident. They must then ensure that first responders are provided with all available information on the incident before they get to the scene.

In the case of emergency calls, the average time that elapses before a SUMMA 112 unit reaches the scene is just 15 minutes compared to 16 minutes before GEMMA was implemented. An improvement of one minute may not sound much but it can make a critical difference when it comes to improving medical outcomes – and even save lives.

The SUMMA 112 control center also manages the transportation of routine and non-urgent medical cases, and coordinates the response to major disasters such as a civilian airplane crash or terrorist attack, both of which have become tragic realities in Madrid in recent years.

Multi agency cooperation

SUMMA 112 operates one of the largest emergency medical coordination center in Spain, spread over 500 square meters and handling over 3,500 calls on a typical day. It employs 230 staff and at any one time 30 operators, eight physicians, four nurses and seven coordination technicians are on duty to ensure a 24/7 response.

When someone calls the emergency number, an operator first identifies, locates and classifies the patient, and assesses whether it is an emergency, in which case resources are automatically activated.

The resource mobilization specialist then assigns the incident to a particular resource, such as a rapid response vehicle, ambulance or helicopter, and sends them an alert message.

All SUMMA 112 emergency vehicles are equipped with a tablet PC connected by high-speed wireless connection with the coordination center.

It enables first responders to view the data on the incident they have been dispatched to attend, and also allows them to access a patient's medical history via GEMMA's links to the electronic health record system.

Another enhancement to GEMMA allows first responders to transmit their assistance report as well as ECG, blood pressure and carbon monoxide readings. In this way, hospital resources can be mobilized ready for the patient's arrival.

The project

Atos professionals worked hand in hand with SUMMA 112 staff to draw up a detailed project implementation program that would see the partners collaborate closely through all phases, from consulting and project definition through system development to adaptation and final delivery.

Optimized response by Atos

The Atos Global Emergency Management (GEMMA) solution enables SUMMA 112 to integrate and coordinate its response to emergency calls. It provides an end-to-end solution that optimizes the use of resources, reduces response times and, most importantly, saves lives.

Renewal of the SUMMA 112 technological infrastructure, including application servers, network electronics, IP telephony, voice recording system, client stations, radio array integrated with telephony, MCA and vehicle GPS positioning.

Implementation of the ATOS Global Emergency Management solution.

GEMMA acts as a sophisticated and highly specialized CRM solution with command & control and decision support functions. Its many capabilities include:

- Reception of calls, their classification and prioritization according to SUMMA 112 protocols, and, in the case of emergencies, the automatic resource allocation.

- Care monitoring via real-time transmission of medical data to the medical team that will attend the incident.
- Resource management to ensure that dispatched resource is most appropriate for the type of incident and geographic location.
- Graphical display integration to localize incidents and the real-time position of available resources.
- Management of hospital transfers.

System evolution to satisfy unmet needs.

For example, the management of non-urgent hospital transfers is an important facet of SUMMA 112's mission and often involves private ambulance companies. The next stage of the project will thus see these private ambulances equipped with health card readers so that SUMMA 112's coordination center knows the identity and health history of patients that are being carried in these routine transfers. All emergency vehicles already have this capability. Another direction for evolution is

to incorporate vehicle telemetry data into the system so that the coordination center will know an ambulance's speed, the temperature of the onboard medical refrigerator, whether the siren is activated and so on.

As well as designing and implementing the project, Atos is responsible for ongoing technical support. Because of the critical nature of SUMMA 112's operations, Atos staff continually monitors the systems and provide round-the-clock support.

"Speed is critical, but it is just as critical that SUMMA 112 sends the correct vehicle to the scene of an incident. The functional needs of an emergency response center are far more complex than those of a conventional call center. It has to meet exacting requirements in the three key areas of command & control, decision support and communications."

Orlando Rodriguez

Big Data & Security Iberia Expert Sales, BDS Sales & Operations at Atos

Customer Benefits

- High-availability system designed for 24/7 operation
- Integrated system covering all administrative, operational and management needs
- Integrated 3-way communications combining telephony, radio and 3G data
- Information organized and structured according to single alphanumeric data model
- Real-time monitoring of incidents and resources. Computerized care report and automatic collection of ECG and other vital signs, which can be incorporated in patient's medical record
- Flexible and scalable design allows new functionalities to be easily added

"The system allows us to automatically transmit real-time information on the incident and patient medical data to the dispatched vehicle. That's a big improvement on the situation before where operators had to communicate dispatch data by phone and the first responders had to write it down."

Maria José Fernandez Campos

Medical Transport Manager at SUMMA 112



The Comunidad de Madrid is Spain's most densely populated region with 6.5 million inhabitants and covering more than 8,000 square kilometers.

For more information: <https://atos.net/en/ip/responsiveness-in-public-safety>

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