

Torino, 10 ottobre 2006



Emergency Management on Urban Areas

Summary

WatchOnLine® allows to automatically manage all kinds of events pertaining to the Municipal Police of a large city. Activities related to traffic accidents, citizen safety, road conditions, episodes of criminality, vehicle management, kidnappings, arrests, disturbance to public peace etc. can be efficiently managed through WatchOnLine®.

In fact, the application can be employed within virtually any context, ensuring support also during complex situations such as disorders and street demonstrations.

Main characteristics

- Smart features for automatic data suggestion/completion
- Automatic abandonment of non-urgent events when maximum time provided for a specific operation is exceeded
- Management of resources within the a chosen area and support for Town Districts
- Enhanced event monitoring features
- Real-time localization of events which are being managed through cartographic and orthophotographic maps
- Cartographic display of resources (localisation, typology, status)
- Printable daily service reports with summary of dispatches provided (categorised according to severity and typology)
- Customizable printable statistics (either automatic or parametric)
- Search option (with regard to both archived events and events which are being managed)
- Citizen information support through reports on traffic or emergency events identified within system archives
- Automatic information reports for Media and other Services (categorized according to severity and chronology)

20060822 - rev. 01



Introduction

WatchOnLine® is a state-of-the-art technological solution designed by Regola, a company which boasts a vast experience in the Emergency Management field. Thanks to the significant competence acquired, and in order to distribute software applications on a large scale, Regola has conceived **WatchOnLine®**, a versatile, multi-user management system, highly adaptable to specific operational schemes, and yet easy to integrate within any background requiring multidisciplinary management operations.

WatchOnLine® provides radio interface systems (including systems employing **TETRA** digital standards to ensure the highest degree of integration between Operations Centre and dispatch teams) and **Vectorial Cartography Systems**; moreover, it fully supports **Telecamera** Networks across urban areas. Such features all contribute to make **WatchOnLine®** the ideal solution in order to monitor all available resources over a chosen urban region.

In addition, the system offers specific tools to create information reports to be forwarded to the Press or other services. In order to identify trends related to the urban environment and to test the overall performances of the system, all data related to the activities managed by the Centre is stored in a historical archive, statistically elaborated and constantly displayed on maxi-screens at the Emergency Centre.

Case Study

WatchOnLine® is successfully employed at the new Operations Centre of the **Municipal Police of the City of Turin**. Because of high technological standards employed, since its inauguration, the Centre has often been visited by international delegations and Media Representatives.

Regola Technological Suite (including the **SaveOnLine®** and the **WatchOnLine®** systems) has significantly contributed to facilitate all organizational activities (both with regard to the province of Turin and other olympic mountain and piedmont locations) in occasion of the Torino 2006 event; that is, the 20th edition of the *Winter Olympic Games*.

Thanks to the simplicity and efficiency of **WatchOnLine®**'s implemented processes, the Operations Centre for the City of Turin alone manages a yearly average of 130.000 emergency calls and more than 70.000 *dispatches*.

As regards multidisciplinary management on urban areas, in Piedmont **WatchOnLine®** is supported by the whole regional **118 Emergency Network** including 8 Emergency Centres employing the **SaveOnLine®** Software Suite by Regola to manage more than 2 million calls and 380.000 *dispatches* per year.

A brand new product was recently included among Regola emergency solutions; that is, **ActOnLine®**, a software application specifically conceived to be employed by professionals of Turin's **Civil Protection**.

In order to coordinate all different Emergency Management activities, a Multifunctional Emergency Centre will be soon established by providing connection among the Municipal Police's Operations Centre (relying on **WatchOnLine®**), the 118 Health Emergency Network (relying on **SaveOnLine®**), and all the other Operations Centres and emergency-related municipal resources in town.

WatchOnLine® and CoreBox

Like all Emergency solutions by Regola, WatchOnLine® incorporates **CoreBox**, a software architecture designed to ensure consistency and strong integration when dealing with multidisciplinary emergency management over specific geographical areas.

In fact, a major requirement within any emergency management-related background is to provide coordination not only as regards teams, but also as regards other services and resources involved in the dispatch. Thanks to CoreBox, all of Regola Emergency Management solutions (especially WatchOnLine®) can boast maximum versatility (that is, full adaptability to specific operational schemes), and expandability (capability to possibly support extra features).

The CoreBox platform's design provides the possibility to manage *information structured* according to *consistent protocols* during the entire operational workflow regardless of what specific emergency management application is being used (i.e. WatchOnLine®, SaveOnLine®, ActOnLine®, ...). Such feature ensures the highest efficiency both in terms of performances and operational quality and allows to monitor in a *complete and detailed fashion* all activities performed since the emergency call reception stage.

In particular, during the entire operational flow the system displays (or permits instant access to) all information answering to the **who-where-what** questions.

CoreBox integrates a main package of common features in order to provide specific data, information and tools to each software module.

CoreBox is in charge of all basic system operations such as document exchange and radio-communication, and involves web-based features ensuring vast portability and great potential in terms of network geographic diffusion.

Thanks to its cutting edge technological features and to its proprietary software architecture CoreBox provides integration and communication both among single "dedicated" software modules and external applications in order to obtain a comprehensive IT system for Emergency Management.

For an example of such IT systems, please check the section on Palmarès® software application, at the end of this document.

Main Features and Tools

La gestione di emergenze attraverso WatchOnLine® coinvolge due aspetti principali, gli **eventi** e il **territorio**, attorno ai quali ruotano le altre funzionalità del sistema. Ogni strumento dell'applicativo offre procedure espressamente studiate per il contesto d'uso e per il tipo di utenti a cui è destinato.

Event Management

Emergency Management through WatchOnLine® involves two main aspects, respectively related to events and geographical areas. All application features revolve around these elements, providing tools purposely designed for specific application domains and target users:

- **Event Management:** WatchOnLine® allows to monitor a single Emergency event starting from its initial stage, when all data is acquired with regard to emergency location, patrols and Services required on the scene, and City District possibly involved. Thus, a comprehensive vision of the event is constantly granted and a precise collection of all relevant information is ensured.

Moreover, two sub-features for Emergency Management are provided by WatchOnLine®: specifically, the “*Call Management Feature*” and the “*Event Management Feature*”.

The first feature deals with all basic data required for caller identification and event classification, while the second one allows to assign the most appropriate emergency resources in order to provide the dispatch according to competence criteria such as the geographical location of the emergency.

- **Event List:** Although very easy-to-use, this is a central feature for monitoring the development of the dispatch. In fact, it allows to rapidly check the list of all events managed through the system, and offers the possibility to access both pending and completed events. By simultaneously observing several events, all available emergency resources can be properly assigned.
- **Service Report:** Professionals working at Emergency Centres know very well how helpful it is to rely on a complete and precise tool in order to produce daily Service Reports. WatchOnLine® provides a specific feature to cope with such a delicate and significant aspect of emergency management which allows efficient staff coordination and facilitates interaction between the Centre and external actors (such as Press Agencies and other services).

Geographical localization

WatchOnLine® fully supports resource geographic localization and visualization.

Operators at the Centre can rely on advanced cartography tools allowing to locate events and resources (either within urban areas or in suburban and peripheral locations) and display them on digital maps. Moreover, the system ensures features in order to track teams and monitor the type and status of all operations which are being performed.

WatchOnLine®'s cartography module ensures extremely efficient iconographic representation and provides operators with different overlapping cartography levels and different details according to individual requirements. Finally, the system offers vectorial and *raster maps*, *orthophotos*, *planimetries* and significant information on sites/buildings.

Other Features

Many of the operations usually performed at an Operations Centre of the Municipal Police require to be supported by external technological apparatuses; this is why WatchOnLine® offers specific modules providing automatic connection with either standard or highly specialised technological equipments. In particular, the system ensures

- a completely automatic interface with *VHF*, *UHF* and *TETRA* radio systems allowing to detect emergency location/dispatch status and supporting messaging and voice features;
- possible connection with *Voice IP* and *traditional telephone switchboards* to manage telephone flows (including both incoming and outgoing traffic);
- automatic interfaces towards issued audio *recording systems*;
- possible radio or telephone connection with wearable *devices and equipments onboard emergency vehicles* to support data exchange and detect relevant circumstances.

Integrated Modules in details

Cartography

Cartographic Visualization with orthophotos, and POI (Point of Interest) Management, resource localization, representation of event status/type, complex multimedia POI reporting.

The entire Emergency Management System is based on an integrated tool for cartographic visualization allowing to constantly monitor resources and services within a specific area, to manage Points of Interest (POI) and to display information related to georeferenceable objects.

Cartographic visualization for Emergency purposes must answer to specific requirements such as *information readability and completeness*. Both these constraints are satisfied by the system's cartography module which employs overlapping visualization layers containing different information categories (i.e. information on buildings, streets and street names, technological installations and vehicle bases).

Moreover, this module offers operators the possibility to display geographical information either through cartography maps alone, or through cartography maps combined with high-resolution orthophotos displaying the dispatch area. This feature is extremely useful in order to provide dispatch teams with useful visual reference and to point out possible morphological obstacles.

Any georeferenceable resource involved in the Emergency Management process - be it a vehicle, a single professional, a team, a facility - is displayed through an immediately recognizable iconographic representation and located either by means of its GPS coordinates (which are constantly updated) or through its absolute latitude/longitude position.

Moreover, the cartography system *provides a dynamic graphic representation of dispatch type and progress state with regard to each vehicle or operator involved in the emergency process.*

All of these features, combined with the possibility to display on-demand details related to any POI and to export a synthetic representation of all operations in progress, contribute to make the cartographic module one of the main elements of the Emergency Management process.

In the perspective of maximum simplicity of use the cartography systems allow strong integration with other application modules, ensuring a high degree of interaction.

For example, a new event record can be created without exiting the cartography module.

Radio Console

Management of Radio-communication among teams.

The Radio Console provided by WatchOnLine® integrated system offers major features to monitor and manage radio-communication usually carried out during the Operation Centre's activities.

The Console can be employed through a dedicated front-end, which is perfectly integrated within the overall Centre's network and provides tools and controls designed to ensure *use rapidity, information unambiguousness, radio-operator experience maintenance.*

The Radio Console not only supports standard incoming/outgoing standard voice communication activities performed by teams (through wearable devices or equipments onboard emergency vehicles) but it also allows to send/receive text messages and coded configurable status messages. The Radio Console provides native support of GPS localization features (through modules possibly installed on devices supplied to operators) enabling team monitoring and progress observation through digital maps.

Because it supports **TETRA** (*TErrestrial TRunked RAdio*) systems, the Radio Console allows to overcome the limits imposed by traditional radio-transmission and, in particular, to implement team coordination patterns. Specifically, it enables to create dynamic groups through the **DGNA** (Dynamic Group Number Assignment) feature, either involving vehicles or single operators. This allows to send targeted communications (possibly encrypted) with immediate advantages in terms of efficiency and accuracy of emergency activities. Finally, TETRA standards, enable to fully support communication among elements within each of the groups, and to dynamically reorganize group composition in real-time.

Content Management System

Document exchange and Intranet-community features.

WatchOnLine® can integrate a Content Management System (**CMS**) providing document management/exchange and allowing to configure an information intranet/extranet involving all actors of the emergency process.

Easy-to-manage document collections can be created through the CSM; in fact, diverse data (including textual documents, images, videos, multimedia documents, electronic spreadsheets, proprietary format files) can be entered, consulted, updated, and, when necessary, deleted.

This way, resources on procedures, norms, and other useful know-hows are made available for teams.

The CMS supports document versioning (historic backupping), automatic notification (for example via e-mail) with regard to newly entered/modified data. Moreover, it integrates commonly used document management features in a community-oriented context providing, among other tools, configurable News and Discussion Areas, Forums, poll mechanisms.

CMS content can be consulted directly *from application panels within other modules*, thus optimizing user activity and ensuring maximum contextualization with regard to operations performed. Therefore, news, procedures and regulations related to specific areas and can be constantly looked up (also through wearable devices and equipments onboard vehicles).

WatchOnLine® WebAccess

Management of Municipal Police's Secondary activities.

The Municipal Police is in charge of a large array of activities which are not strictly related to emergency interventions. Thanks to the CoreBox platform, WatchOnLine® provides modules for facilitating all routine activities performed by a Municipal Police Operations Centre.

As an example, authorized operators can enter general data related to the urban environment, information regarding specific problems (such as traffic-related problems), significant information on support services and facilities, precise reports on supply consumptions and employed procedures.

Such features are provided through web-based applications which can be employed - upon access authorization - within commonly employed Internet browsers (such as Microsoft and Internet Explorer). These characteristic allows maximum portability and versatility, besides enabling the possibility to increase the territorial coverage provided by operators performing all of the activities described so far.

Palmarès®

Besides modules comprised in the Emergency Management Suite, CoreBox allows to integrate (and provide communication with) external applications which can be efficiently employed during Emergency Management.

Palmarès® is a perfect example of such integrable external solutions.

To be more specific, this application has been designed by Regola to be employed by professionals working in the area of urban traffic management and control. In particular, it facilitates monitoring activities related to the urban environment such as paying car park management; traffic/transportation fine provision; notification of urban related inefficiencies.

Palmarès® is an extremely valuable solution especially when combined with the other equipments employed by Operations Centres.

Palmarès® can be installed on *palmtop devices, tablet PCs and other mobile devices* (such as *GPRS and UMTS* devices, all ensuring the possibility to rely on a private sub-network), and can be easily used during the Emergency treatment.

Besides standard features (see product brochure), the application allows *to refer to resources on specific emergency protocols* (thus eluding the need for support provided by the Centre), *collect multimedia data related to the emergency required by the Centre* (i.e., photographs taken through the mobile device), *access, consult and forward specific data through the modules provided by CoreBox®* (SaveOnBoard®, WatchOnLine®, ActOnLine®, ...).

Palmarès® is particularly efficient when dealing with the coordination of teams or team members (as in the event of a Maxi-emergency); in fact, the application is able to provide data exchange features and task/messaging systems.

Furthermore, mobile technology provides benefits in terms of geographic localization of professionals in action on specific areas.

Palmarès®'s very value resides especially in the large array of features it offers. Among other tools, it provides a Server module in charge of the coordination and remote management of mobile terminals. This makes it possible to manage user authorizations and plan activities; moreover, it supports system data acquisition to ensure data sharing among all management modules.