

MANAGEABLE,
EFFICIENT AND
SAFE FIRE FIGHTING
OPERATIONS



PREMFIRE
FIRE COMBAT MANAGEMENT AND CONTROL SYSTEM

PREMFIRE is powerful and portable mission critical software system for Fire Combat and Resource Management.

PREMFIRE handles all phases of Fire Combat operations keeping all relevant information updated and resources tracked via GPS.

PREMFIRE uses the latest wireless communications services available.



BENEFITS OF INTEGRATED CONTROL

All information on alerts, confirmed occurrences and resources (fire fighters, vehicles, aerial means, etc.) is registered in a centralized database at the Operational Centre. Multiple fire events can be supervised simultaneously and available resources can be assigned and moved across occurrences. Fire mission assignments can only be managed by authorized personnel.

At the Theatre of Operations, Fire Chiefs can download and upload information and sketches from the Operational Centre, allowing the definition of a best strategy for fire attack.

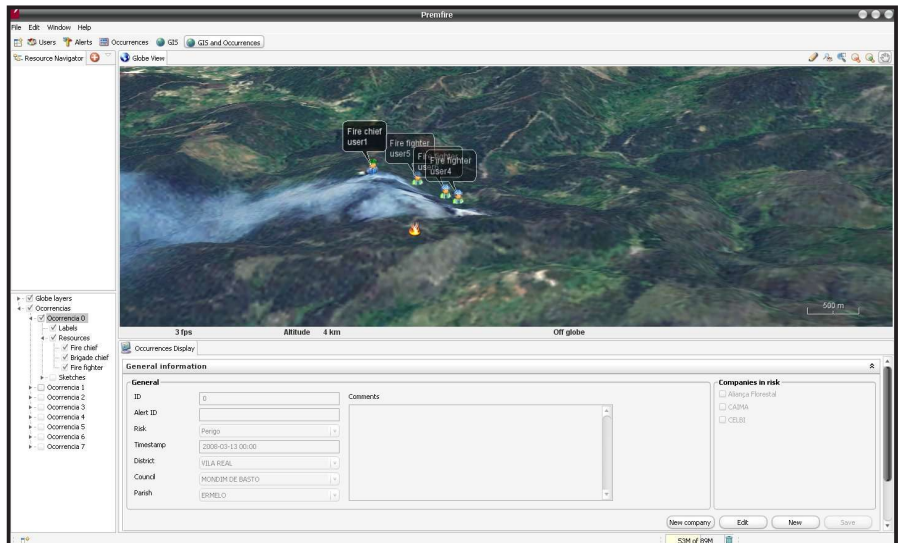
Both operators and Fire Chiefs at the Command Centre real-time track the assigned resources and follow the evolution of the combat operations.

REAL-TIME DECISION MAKING

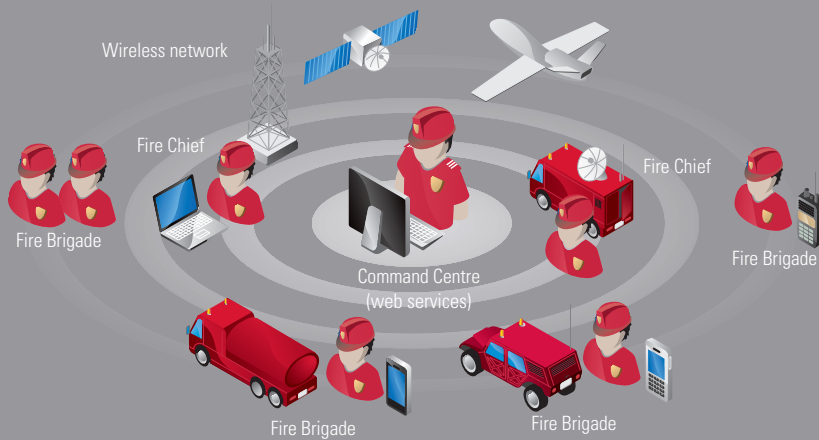
PREMFIRE is designed for helping the real-time decision making process during Fire Combat operations. Resources can be permanently tracked and information can be updated between Mobile Users and Operational Centre. It contributes to a faster and more efficient combat, reducing arrival times and operational costs, supporting mission planning and monitoring resources assigned. As it uses standard communication systems, PREMFIRE offers the reliability needed for fire fighting critical missions.

GLOBAL MANAGEMENT TOOL

PREMFIRE is a unique and global solution to fire fighters, Civil Protection and Forest Management Organizations interested in optimizing their readiness and responsiveness. It can be installed both at the Operational Centre and at the Theatre of Operations, controlling and monitoring the information flow, resource assignments and positioning. PREMFIRE allows real-time 3D visualization of all resources and wireless communication during all fire operations, from alert to extinction.



SYSTEM ARCHITECTURE



PREMIRE allows a timely response to occurrences and help on the decision making process in emergency scenarios.

PREMIRE requires no specialized computer skills since it was developed for simple use and was designed with a user friendly interface.

MAIN FEATURES

Reliability, Mobility and Scalability are the three main features of PREMIRE, providing a dependable solution for fire combat operations, where the user can go mobile all the time and allowing the system to grow and adapt to the organization needs.

Reliability is the most critical feature in real-time systems and mission critical scenarios. Critical Software developed PREMIRE from its long experience in space industry software.

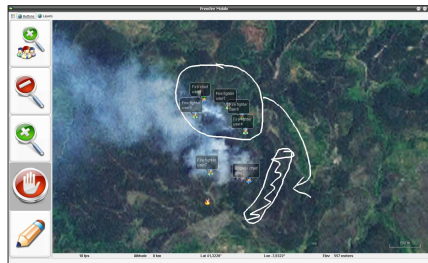
Mobility is essential for most of the stakeholders such as Fire fighters and Fire Chiefs, who move permanently or coordinate the movements of resources in the Theatre of Operations. PREMIRE Mobile, installed in a rugged Tablet PC, offers all users the needed mobility in such harsh environments.

Scalability is a fundamental feature for most organizations since the product must adapt growth needs and its modular architecture allows the management of different multi-level structures.

SYSTEM ARCHITECTURE

PREMIRE replicates the multi-level hierarchical architecture as found in Civil Protection and Fire fighters operations. The system can configure different user roles such as Command Centre, Fire Chiefs/Brigade Chiefs and combat forces.

PREMIRE modular structure offers a bespoke solution for the stakeholders involved in wildfires.

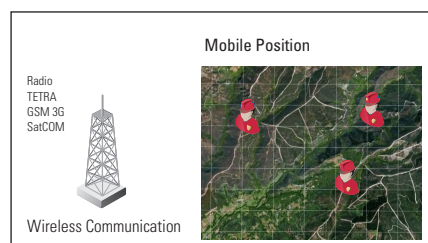
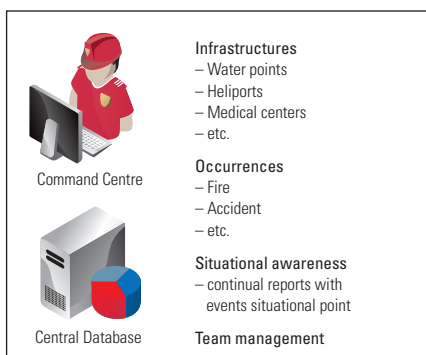


PREMIRE C&C is designed for the Command Centre which handles all operations, manages all resources and controls all occurrences in a national/local emergency scenario.

PREMIRE Mobile is designed for the Fire Chief operating on-site and in need of a local decision making tool. The Mobile can transfer information from and to the Command Centre.

PREMIRE Position is the GPS application that allows Operational Centre and Mobiles real-time tracking of resources fighting the fire. Each vehicle and person should carry a PREMIRE position.

GPS Positioning devices with wireless communication can be provided by third parties. Nonetheless, Critical Software can provide a third party list, from which the user can choose. If the user already has GPS and GPRS/Tetra/SatCom devices, they can normally be integrated with PREMIRE.



KEEP TRACK AT ALL TIMES

Positions of deployed resources can be real-time tracked, by simply using any Global Navigation Satellite System receiver, such as a GPS. PREMIRE can receive GPS signals from all resources at the same time and update their position on screen every few seconds in order to keep a permanent monitoring. Communications are another fundamental component of the PREMIRE system. Regardless where the fire takes place (dense forest, deep valley or mountain) a successful communication flow with the Operational Centre is crucial. PREMIRE complies with all modern communication standards as it integrates IP-based communication architecture. No matter which communication channel is selected (HF digital Radio, TETRA Radio, GSM/GPRS or Satellite Communication) PREMIRE offers a reliable communication solution for Emergency Management Operations.

TECHNICAL SPECIFICATIONS

No hardware is provided with PREMIFIRE.
Minimum requirements.

PREMIFIRE CC

Hardware

PC with:

- Processor: 2Ghz
- RAM memory: 2GB
- Hard drive disc space: 200GB
- Monitor size: 19"

Software

Windows XP or higher (32 or 64 bits)

MAC OS (soon)

Unix/Linux (soon)

Network

Internet connection desirable speed: 2 Mb/s

PREMIFIRE Mobile

Hardware

PC or Tablet PC with:

- Processor: 1Ghz
- RAM memory: 1GB
- Hard drive disc space: 40GB
- Monitor size: 8" (touch) screen
- Autonomy (desirable): 3 hours
- Water and shock resistant
- Maximum weight: 2 kg

GNSS receiver:

- Output in WGS-84 coordinate system
- NMEA 0183 output format
- Withstanding temperature of at least 60 °C

GPRS modem:

- Withstanding temperature of at least 60 °C.

Software

Windows XP or higher (32 or 64 bits)

Mac OS (soon)

Unix/Linux (soon)

Network

Internet connection speed: 512 Kb/s.

PREMIFIRE Position

Hardware

GNSS receiver:

- Output in WGS-84 coordinate system;
- NMEA 0183 output format;
- Withstanding temperature of at least 60 °C.

GPRS modem:

- Withstanding temperature of at least 60 °C.

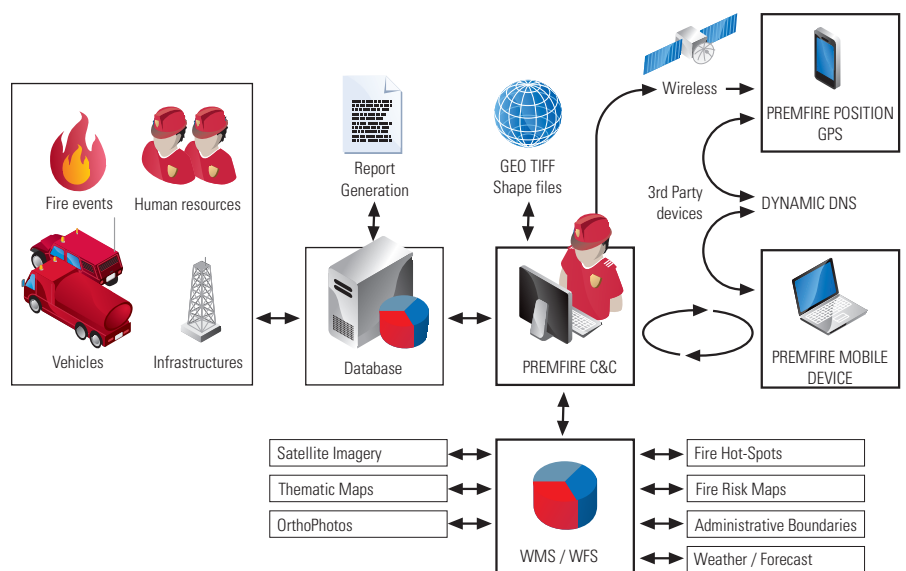
Software

The software integrating both modules (GNSS and GPRS) must allow the following scripting languages:

- C++ (Symbian OS)
- Visual C# (Windows Mobile)
- Python (others)

Network

Internet connection speed: 56 Kb/s



HOW DOES IT WORK?

A PREMIFIRE C&C licence is installed at the Command Centre computer. The Central computer must be connected to the Web so it can access multiple worldwide WMS/WFS servers, PREMIFIRE Mobiles and Positions and 3rd party devices.

Geographic information such as aerial photos, satellite images, fire hot-spots, fire risk maps, thematic maps, weather data, administrative boundaries, polygon layers, labels and points of interest, can be widely used by PREMIFIRE, either by importing them from external files on GeoTiff or Shape file formats, or by connecting available WMS/WFS servers.

PREMIFIRE C&C and PREMIFIRE Mobile can also be used to collect and edit new local geographic features (such as assets, points of interest, water hydrants, etc.) and create missing layers of information.

Special layers of information on human resources, vehicles, fire events and infrastructures are stored on a central database and can be interchanged in real-time between the Command Centre and the Mobiles, allowing both updating and sharing of the relevant information.

Mobiles and position devices must be web-linked via any wireless device, and allow IP-IP connection in order to freely communicate with the Command Centre.

The decision making process can therefore benefit from having all the required information made available on-site and real-time.

Resources can be easily allocated to a fire occurrence by a simple click. They can then be monitored real-time on screen for an easier and safer combat operation.

Full detailed reports can be generated and printed at any time, showing the timeline and related information about the deployed resources, information exchanged and state of the fire combat, across all phases.