

FOREST FIRE DETECTION SYSTEM



KatloTech
COMMUNICATIONS

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EXECUTIVE OVERVIEW

Forest Fire Detection System (FFDS)

With the increase of forest fires all over the world there has to be a new approach to managing the budgets allocated to spotting and dealing with fires that threaten critical community resources and also the communities themselves.

Spotting towers, satellites, weather reports, and emergency call centers have been the traditional way to finding out about forest fires. However, with the steady increase of global temperatures and a shift in weather conditions the firefighters of today have to get to forest fires before they grow to an unmanageable wildfire. They need to get to the most critical fires faster and with the right equipment and teams.

- How can the firefighting team maximize their effectiveness and still do so without drastically increasing their yearly budgets?
- How can they get faster and more accurate information about the fire situation in their region, even at night?
- How can the community's volunteer teams get coordinated and distributed to fires in a timely and safe manner?
- How can a budget committee allocate the funds and resources needed to make sure that the fire departments have enough funding to deal with the increase in forest fires in their region?

WHY THIS FIRE DETECTION SOLUTION WORKS

This year the fire growth prediction ENR stated that they need better data to predict behavioral analyses and modeling of forest fires. This system will enable them to better advise firefighter teams on the ground, air, and mobile fire control center (figure 1).

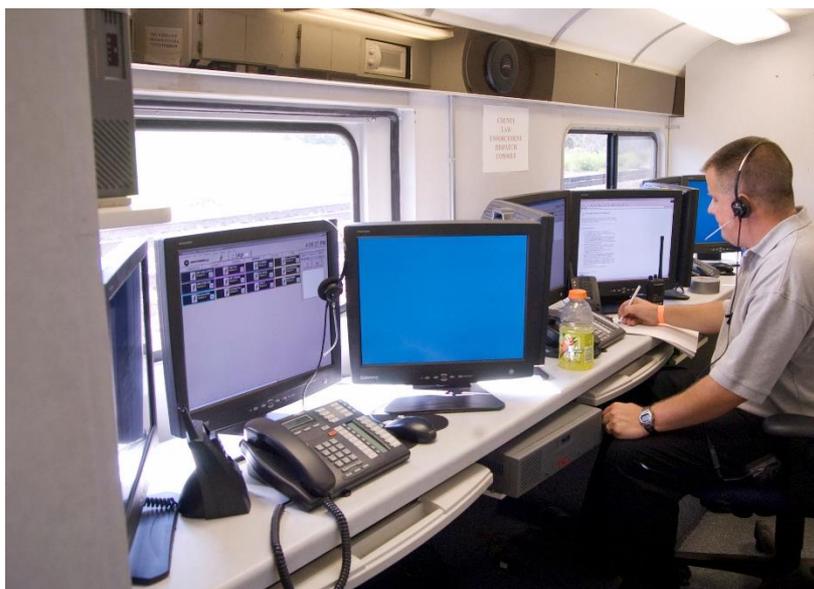


Figure 1 Mobile Fire Control Center

By linking the physical world to the Internet, wireless sensor technology can improve response times to potential hazards forest fires, floods, air pollution, and many more scenarios. This system is becoming the "go-to" solution for procurement shared services around the world.

This forest fire early detection setup will monitor four different environmental parameters. The sensors monitor and then report back in real-time with information on: Temperature, Humidity, CO2, and CO respectively. The data generated by these devices are sent to a central wireless gateway to ensure the long-range transmission of data to the cloud. The system's "situation room interface" enables managers to view an interdependence map that displays the situation in real-time, 24/7. (Figure 2)

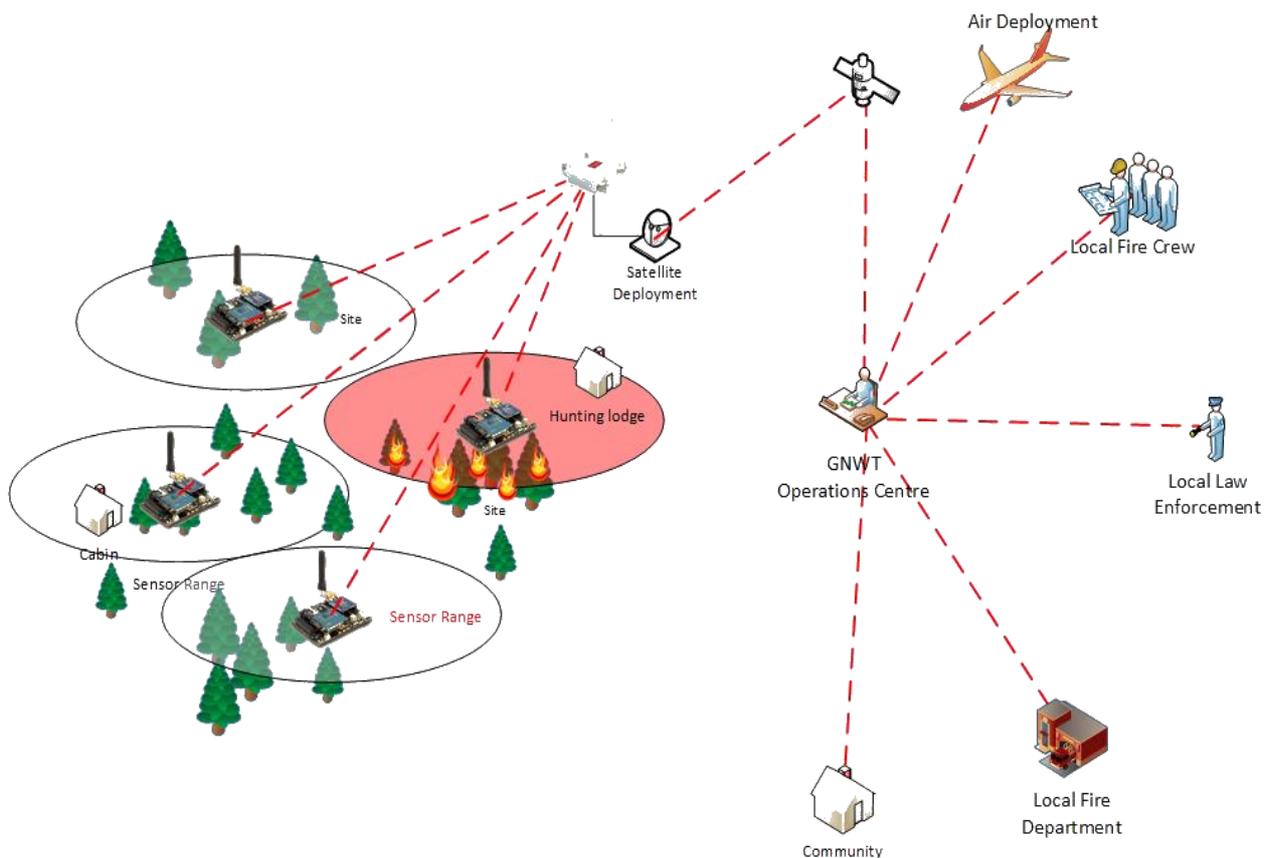


Figure 2 Monitor Forest Fire in Real-Time

This system helps teams understand the complexity of the situation and enable emergency teams to develop strategic planning choices that count. It will enable those charged with managing the threat of forest fires to be instantly alerted to the cascading effects of complex scenarios, and will provide the detail and information they need to efficiently respond with fire teams on the ground (figure 3)



Figure 3 Fire Crews on the Ground

Quote:

"The system installation has already led to greater cooperation between public and private interests within the region, who continue working together to identify threats and deal with them as needed."

Castropol City Council

BENEFITS OF OUR SOLUTION



Here is a list of the benefits for a community if they install a Forest Fire Detection System:

- Increased efficiency of fire department resource allocation.
- Citizen (volunteers or community leaders) can get updates easily.
- Cost-effective solution with low maintenance fees.
- Self-powered through solar panels for remote locations.

- Upgradable and scalable to fit growing needs.
- Proven track record in Europe and the US.
- Early warning before fires are detectable by human spotter teams.
- 24/7 monitoring (sensors work with no light).
- Faster information gathering and distribution response times so fire departments can manage their resources better.

PROJECT PROPOSITION

KTC group has developed a project opportunity to test our FFDS system in real-time.

KTC would like the opportunity to work with potentially impacted communities to have the added benefit of deploying an additional forest management tool installed for the 2020 fire season.

Your project would include a turn-key solution that would include:

- Planning and strategic research on optimal placement of this "information gathering array" for optimal data gathering.
- Integration with your existing communications network.
- Testing and deployment of all components.
- Monitoring and tweaking the system for even better results at the end of the 2017 fire season.
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- A researched report for the expansion of the data gathering network over the next 5 years.
- A complete maintenance package to future proof this solution.
- Multiple sensors on each device (CO, CO2, Wind Velocity, etc).
- All sensor data sent to a secure cloud server 24/7.

FOREST FIRE FACTS

1. Based upon a 20-year period, the NWT
2. experiences an average of 245 fires per year.
3. In 2014 year about 385 forest fires have occurred.
4. The total area burned averages about 3.4 million hectares of forest resources.
5. Only 126 fires were actioned about 33% near communities.
6. The GNWT "fire suppression costs" for the 2014 year spent 56.1 million dollars.
7. There is a growing consensus that as wildland fire activity increases, fire agency suppression efforts will be increasingly strained.
8. Fire-prone conditions are predicted to increase across the NWT and Canada. This could potentially result in a doubling of the amount of area burned by the end of this century.

Should you require any further information, please do not hesitate to contact us at info@katlotech.ca or visit our website at <https://katlotech.ca>