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WHITE PAPER

MAKING AIRPORT FIELD OPERATIONS MORE EFFECTIVE

LEVERAGING ENTERPRISE GIS TECHNOLOGY AND SITUATION MANAGEMENT INFRASTRUCTURE

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EXECUTIVE SUMMARY

This white paper will discuss how airports can leverage already existing technologies – EGIS (enterprise geographical information systems) and Situation Management – to gain improved field operations. With these technologies, we can extend certain control room data out to the field and arm stakeholders with useful geographical information accessed with web-based applications and mobile devices.

THE NEED FOR IMPROVED COLLABORATION

Effective collaboration between the control room and field is a day-to-day challenge for environments such as airports. Today's control room has access to a massive amount of information coming in from a variety of sources, but the people out in the field, those responding and responsible for resolution, do not have access to that same information. As a result, field personnel are reliant on the control room to convey information so that they can understand what is happening including the most basic view of where things are happening. This of course can affect the field's ability effectively act and implement the best procedure in order to complete daily tasks and respond to events.

Moreover, real-time collaboration requires the ability to effectively communicate detailed information. Those in the field must be able to update the control room and other field personnel (multi directional communication), a critical factor in achieving smooth operations for organizations working in complex and demanding environments.

TODAY – THE CONVERGENCE OF TECHNOLOGIES

Many airports already enjoy the benefits of using an enterprise GIS system. It helps them streamline their geo-location information and provide it to different stakeholders that are part of the airport infrastructure. GIS makes it much easier to visualize various information layers; anything from perimeter and access routes to utility layers like water and electricity, and up to the commercial tenants in the duty free area.

Situation Management solutions or PSIM are increasingly showing their value outside of the security domain and into the airport operations space. For example a burst water pipe is an operational issue - A Situation Management solution would identify where the burst pipe is, , and automatically alert the closest personnel to handle it. Moreover, using the enterprise GIS information it is easy to understand what parts of the airport are affected by the event — terminal, gate or shop — and what can be done to reduce impact on business (e.g. redirect to another gate).

Through events such as the one described above, it has become clear that field personnel can and should use the processes and management capabilities provided by Situation Management solutions, and not just for security purposes.

When GIS is full synched with the control room, it can leverage the already available information that exists and extend its reach to the field using handheld devices.

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Here's a more detailed sample scenario of how a enterprise GIS and Situation Management-enabled system would work in the airport environment:

During a routine check of runways:

1. A call is received by the control room from a field employee who noticed that there is a suspicious pothole in one of the taxi lanes.
2. The control room opens an incident using the situation management system with an indication of the location of the event on the GIS map.
3. The nearest field personnel are sent a new "inspection required" task to their tablet device, indicating the exact location on a map and the nature of the problem.
4. Field personnel arrive onsite and open a sub-incident, which requests that maintenance personnel to arrive at the location for repairs and also notifies the control room that the taxi lane needs to be closed.
5. A work order is issued to the maintenance personnel and the control room reroutes taxi traffic.
6. All relevant personnel are automatically updated about the closed taxi route.
7. Once the maintenance crew has finished repair work, the appropriate field personnel are alerted to the completion and sent a task to inspect the fixed lane.
8. A field agent approves that the work has been done and closes the incident; relevant managers are automatically informed by email.

If we start thinking about benefits derived from having a GIS/Situation Management-enabled mobile solution in place, we see that they are numerous:

- **Improved response** – taking situation management capabilities beyond the control room.
- **Improved information sharing** – not only is existing information being leveraged for additional purposes, a mobile EGIS-enabled solution streamlines the flow of information across multiple departments and functions.
- **Efficient allocation of resources** – by understanding the extent of the issue and its location, the proper allocation of resources can be assigned. Moreover, once a field agent has responded to an incident, all other field agents are made aware of this and will not be alerted about the same issue.
- **Fast resumption of operations** – as the control room is updated in real-time and can in turn make relevant notifications of progress and resolutions, operations can resume that much faster.
- **Risk mitigation** – with incidents resolved faster and more effectively, we thereby mitigate the risk of incidents that can cause damage in a variety of ways.
- **Cost savings** – all of the above have result in a positive financial impact.

In essence, what a solution of this type does is integrates and extends the reach of these already existing technologies for the benefit of overall operations.

LOS ANGELES INTERNATIONAL AIRPORT (LAX) DEPLOYS A MOBILE EGIS-ENABLED SOLUTION

LAX is one of the leading and most innovative airports in the world when it comes to the adoption of new technologies and implementing groundbreaking solutions. Recently, launched a new web application that enables greatly improved collaboration between the security control room and field personnel for incident management. LAX identified that there were distinct benefits in making GIS available to a wide range of stakeholders in the organization and have since added field personnel and additional back office functions to the list of users deriving benefit from this technology.

Leveraging LAX's situation management system – Situator, combined with their EGIS infrastructure, LAX has enabled wider visibility and collaboration on incidents, tasks and content based on GIS information sharing. This has

resulted in improved work processes and response across many functional areas.

The EGIS-based web application basically takes situation management beyond the control room enabling effective collaboration with field personnel and leveraging advanced mapping and situation management capabilities for multiple users.

LAX has currently implemented this solution in applications such as:

- Field and Terminal Inspections Management .
- Property Management
- Utility Outages & Disruptions Management

Innovation is about finding better ways to do something.. By combining situation management, EGIS and mobile reach we end up with a better way to run security and operations for a variety of functions.

ABOUT

Qognify helps organizations mitigate risk, maintain business continuity, and optimize operations. The Qognify portfolio includes video management, video and data analytics, and PSIM/Situation Management solutions that are deployed in financial institutions, transportation agencies, airports, seaports, utility companies, city centers, and to secure many of the world's highest-profile public events. **www.Qognify.com**

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