

## Tracking and Reducing the Threat of Land Mines on Civilian Populations

### The Business Issue

The mission of the Geneva International Centre for Humanitarian Demining (GICHD) is to help free the world of anti-personnel landmines and to reduce the humanitarian impact they have on civilian populations by providing countries with operational assistance and improved information sharing and management. As part of this mission, the GICHD has focused on developing and deploying a collaborative, decision support application, known as Information Management System for Mine Action (IMSMA), to assist countries in assessing and mitigating the threats these landmines pose to civilians throughout the world.

IMSMA, a threat awareness and mitigation tool with a built-in geographic information system (GIS), supports humanitarian demining programs in more than 40 countries. Because the GICHD distributes IMSMA free-of-charge to mine-affected countries, and because the application may be used in various ways, GICHD needed an application with the flexibility to support a vast array of data and workflow processes, supporting users with a wide variety of backgrounds and languages—all at a very low cost. Because the GICHD could not anticipate how each of the more than 40 independent programs would use IMSMA to support its efforts, the application had to be easily configured by local users to support specific needs without complicated, expensive recoding.

### The FGM Solution

Working closely with the GICHD, FGM, Inc. completely redesigned the existing stand-alone IMSMA application, initially built on proprietary technologies, into an adaptable information management solution. Using new and innovative open source technologies, FGM completely eliminated all licensing costs for the application as well as hidden costs that were the result of dependencies on external proprietary tools, such as the Microsoft Office<sup>TM</sup> suite, enabling the GICHD to distribute the application to a much larger humanitarian community.

Because the IMSMA community includes more than 40 sovereign countries, with programs as small as 3 people and as large as 100, FGM's design approach was to develop an application with tremendous flexibility that can be locally configured at installation by each program to suit their particular needs rather than requiring developers to. The resulting application included a completely customizable data model that allows users to supplement the pre-loaded data model with information they wish to collect, without impacting their ability to exchange information between systems. Because these customization features were built in to the application, users can customize the database to collect the information they need locally while preserving their ability to share information with other IMSMA users.

### case study

The de facto standard in mine action information management.



# IMSMA

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FGM designed IMSMA with the operational user in mind, providing easy-to-use, intuitive interfaces that are designed for non-IT specialists. These include a simple map interface, iconic representations of information, and a focus on operations rather than information technology.



IMSMA's innovative data-entry form designer provides users with a "what you see is what you get" capability that allows them to design their own data entry forms based on the IMSMA data model. They can select individual elements from the data model to include in a data entry form, either pre-loaded or locally defined. This allows them to collect information relevant to their specific needs. Forms can be customized with logos and other layout elements, and can be printed for field use or copied to a handheld device to interact with sensor feeds such as a global positioning systems or laser range-finders. Ultimately, users control the process of collecting information and designing forms while IMSMA preserves the integrity and interoperability of the core data model, based on common data standards.

IMSMA can be localized into any language using property files, and users can run IMSMA simultaneously in multiple languages, including right-to-left languages such as Arabic, without expensive application re-engineering. IMSMA is currently translated into seven languages and can easily be translated in the field using a built-in editor.

## The Results

Today, IMSMA—the de facto standard in mine action information management—is distributed free-of-charge by the GICHD and is used by more than 80% of mine action programs throughout the world in more than 40 countries. IMSMA 4.x will replace each of these installations, and is expected to expand to more than 50 countries within 2 years. IMSMA supports mine-affected countries throughout the world in their efforts to track and reduce the threat of landmines on civilian populations, making the world a safer place.

## Methodology & Technology

IMSMA 4.x is a customizable collaboration tool built using the latest technologies and incorporating the most up-to-date standards. IMSMA is built using a rich integration of Java™/J2EE and several open source tools, including JBoss®, Hibernate, and the MySQL® database. FGM incorporated a robust geospatial information system component within IMSMA using ESRI's ArcEngine 9.x to produce an easy-to-use map interface to support geospatial visualization and analysis.

IMSMA works in both client/server and standalone environments and is designed to function with minimal hardware requirements to support even the most remote user. FGM designed IMSMA from the beginning to support key metadata standards including the mine action XML (maXML) standard for information exchange, which IMSMA uses internally and externally to share information.

## About FGM

FGM, Inc., is an information technology company delivering sophisticated, technology solutions that improve business efficiency across the enterprise.

As a trusted partner of the Department of Defense, U.S. Government civilian and international agencies, and businesses throughout the world, FGM is an agile provider of technical solutions that enable mission-critical operations and decision-making.

FGM's integrated solutions help our clients improve their business performance through information technology transformation services focusing on architecture, information management, and systems integration.

Headquartered in Reston, Virginia, FGM also has offices in California, Colorado, Hawaii, and Nebraska. With over 200 talented professionals, FGM is a thriving employee-owned corporation.

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## Featured Capabilities

- Systems Integration
- Metadata Management
- Workflow Solutions

## Vision. Leadership. *Experience.* Results

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