

# Effigy

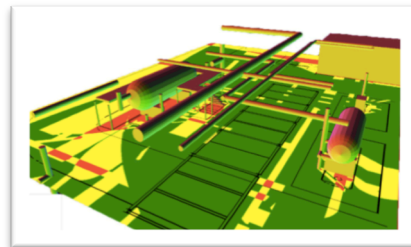
3D Fire and Gas Mapping Software



Solves the problem of where to put fire and gas detectors, why they need to be there, and how many detectors are required to achieve an acceptable level of protection. By verifying the coverage of an array of fire and gas sensors, Effigy validates that the locations chosen will provide the coverage desired.

Fire and Gas Systems (FGS) are important tools for safeguarding process plants and production facilities that handle flammable and toxic materials. All such facilities have inherent risk, which cannot be adequately managed by preventive controls; in some cases these facilities require the installation of FGS to mitigate these hazards. Kenexis assists our clients in the design, implementation and testing of these systems. Through our work on standards and our on going effort to train engineers in this field, it became apparent that we could continue to improve the quality, accuracy, and repeatability if we created software tools for our team and yours.

Effigy was developed with our expertise in FGS design, our process knowledge, and overall risk analysis capabilities. This expertise is then deployed using best-in-class tools such as the Effigy™ fire and gas system computer aided detector-mapping software. This combination provides the most rigorous analysis, which results in the safest plant at the lowest cost by optimizing detector placement.



## Features

- Geographic and Scenario Based Coverage Mapping
- 3D CAD Import and 3D Analysis
- Enterprise, Multi-User Web-Based Platform
- Accurate Optical Flame Detector (FM3260 Certified) Model Coverage
- ISA-TR84.07-2010 Technical Report Compliant

Effigy was designed and built by FGS consulting engineers that perform risk assessments and engineer design basis solutions for industry.

**KENEXIS SOFTWARE**

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## **Geographical and Scenario Based Coverage Mapping**

Analyzes detector location for geographical and scenario based coverage, while considering the specific application, equipment, and instrumentation used in the facility under study. Scenario coverage mapping, provides a geographic risk profile that combines the thousands of scenarios possible in a zone, calculates the detector coverage, and maps the scenarios detected and not detected by the detectors

## **3D CAD Import and 3D Analysis**

Supports 3D CAD import and analyzes in 3D, including the detector cone-of-vision, obstruction location, and obstruction shadow orientation. Analyzes multiple obstruction geometries, in all orientations. Presents color-coded graphical coverage maps indicating extent of the various coverage areas.

## **Multi-User Web-Based Platform**

Effigy is a module in the Kenexis Instrumented Safeguard Suite that assist in the performance based design and ongoing management of instrumented safeguards, such as safety instrumented systems and fire and gas systems. The suite is online web browser based, always up to date, supports multi-user, and is priced based on annual seats or by project.

## **Accurate Optical Flame Detector (FM3260 Certified) Model Coverage**

Accurately and specifically models any brand of detector, and separately assesses all documented sensitivity settings of those detectors. Also, includes a database of most common fire and gas detection equipment and associated performance metrics. Accurately models cone-of-vision projections as detectors are moved away from the elevation of interest and rotated away from parallel. Accurately model different fire sizes and materials of interest for each detector as required (e.g., methane, hexane, methanol).

## **ISA-TR84.07-2010 Technical Report Compliant**

Using ISA-TR84.07-2010, Guidance on the Evaluation of Fire and Gas System Effectiveness and through years of research and validation, Kenexis developed Effigy to perform sophisticated and accurate coverage calculations to standardize the approach to achieving quantitative coverage targets into their fire and gas design processes.

## **About Kenexis**

Kenexis is an independent engineering consulting firm. We ensure the integrity of instrumented safeguards and industrial networks. Using skills in risk analysis, reliability engineering, and process engineering, we help establish the design and maintenance specification of instrumented safeguards, such as safety instrumented systems (SIS), alarm systems, fire and gas systems. We use the same skills for industrial control systems (ICS) network design, cyber security assessments, and industrial network performance analysis.