



**Cybermotion** is pleased to present to  
The Office of Homeland Security

# Automated Safety Patrol

**...Beyond the humanly possible !**

# The Problem

In the aftermath of 9/11 and other terrorist-caused disasters, *the risk* of relying on poorly-compensated and ill-trained personnel to perform repetitive, boring security tasks has been repeatedly demonstrated. Worse yet, perpetrators of terror surely know *when security lacks substance*.

Foot patrol is a dramatic example of a task that humans tend to not perform very well. Now, *Automated Safety Patrol* offers a solution.

# Why Automated Safety Patrol ?



Automated Safety Patrol (ASP) provides *wide area, broad spectrum*, threat sensing in occupied *or* unoccupied indoor environments.

# Based on a COTS System

*This is not an R&D project!*

CyberGuard® systems are in operation today and have already averted potential disasters!

The COTS product requires only the integration of *unconventional* threat sensor systems to provide an *even more* powerful public safety tool.

# Conventional Threats

*(Standard sensors on CyberGuard®)*

## Fire Prediction

*(Gas, Smoke, Temperature, Flame, etc.)*

## Air Quality Assessment

*(Carbon Monoxide, Smoke, Temperature, Humidity, etc.)*

## Human Presence

*(Scanning PIR, Radar, Ultrasound, etc.)*

## Puddle Detection

*(Laser Absorption)*

# Unconventional Threats

(detectors yet to be added to the standard system)

- Chemical Agents
  - Biological Agents
  - Radioactive Threats
  - Facial Recognition of Known Terrorists
- 

# How does it work ?

Robotic platforms perform automatic patrol on a *sequential or random* basis.

*Multiple* platforms are monitored from a remote location over available communication links.

**i-Con Intelligent Console - by Cybermotion Inc.**

File Edit View Tags Window Install Calibration Help

System Robot 1 **Halt** Robot 2 **Halt** Robot 3 **Halt** Robot 4 **Halt** Robot 5 **Halt** Robot 6 **Halt** Robot 7 **Halt** Robot 8 **Halt**

Logging

AUTOMATIC Surveying B13_SB to B13_SC B13_B13_CD	UNKNOWN/UN Installed No Job Uninstalled	UNKNOWN/UN Installed No Job Uninstalled	UNKNOWN/UN Installed No Job Uninstalled	UNKNOWN/UN Installed No Job Uninstalled	UNKNOWN/UN Installed No Job Uninstalled	UNKNOWN/UN Installed No Job Uninstalled	UNKNOWN/UN Installed No Job Uninstalled

# Operator Display

Monitor for Robot 1 at B13 , B13\_CD

Map Display of Robot 1 at B13 , B13\_CD

21:16:58 | B13 | 045.32x, -049.39y, -008E

**AUTO**

Watch XY

Reference

Stop robot and survey for intruders.

**HALT**




# How does it report ?

- Instant situation assessment
- Instant graphic and map display
- Instant video
- Log files
- Incident reports
- Digital video recording
- Map displays
- Time-based graphs
- *Trend analysis*




# Actual Incident

 Fire Threat Assessment ✕

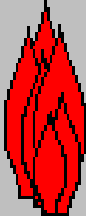
Robot 1 at Facility B13

Surveying Alarm

 FIRE Threat Level: 103.1

Robot 1 is in an alarm state and is currently reporting a fire threat level of 103.1. This threat is from the flame sensor and is significantly confirmed by other sensors. It should be investigated.

Sensor	Reading	Threat Contribution
Smoke	<span data-bbox="371 978 485 1035">001.1</span>	<span data-bbox="514 978 847 1035">00.0%</span>
Gas	<span data-bbox="371 1063 485 1120">048.1</span>	<span data-bbox="514 1063 847 1120">40.0%</span>
Temp C	<span data-bbox="371 1149 485 1206">033.1</span>	<span data-bbox="514 1149 847 1206">05.1%</span>
Flame	<span data-bbox="371 1235 485 1292">020.3</span>	<span data-bbox="514 1235 847 1292">58.0%</span>



Acknowledge Scan Help



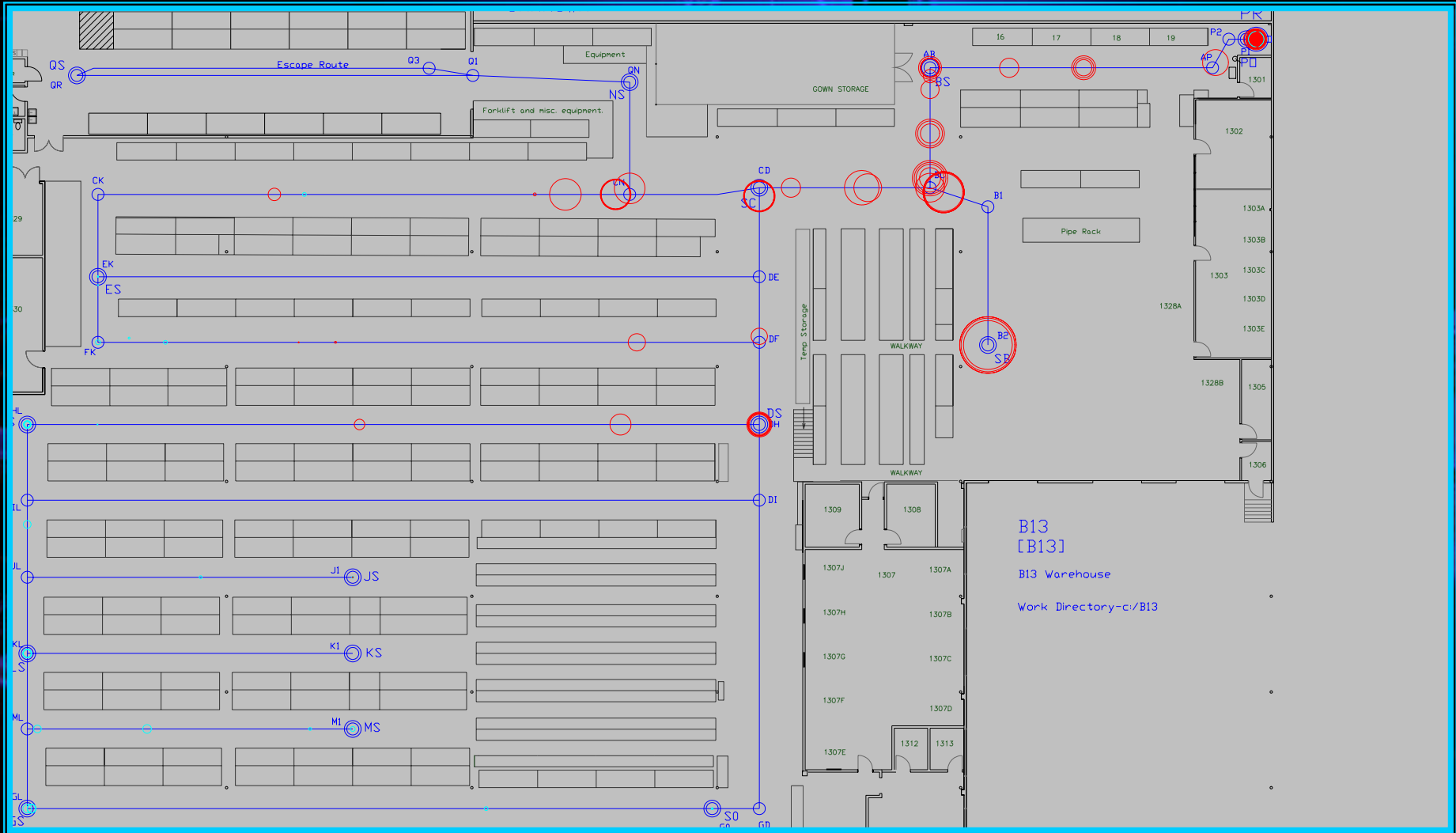
# Incident Report

```
--- FIRE ALARM REPORT ---  
C:\ROBOT1LOGS\04112325.FIR --  
Robot 1 at B13 generated this report at:  
Date: 04/11/2002 Time: 23:25:45  
Status: ALARM!  
Map: B13  
Position: -107.74/-96.48  
Heading: +380  
Current Job: B13_DS to B13_HS  
Origin Node: B13_DS  
Destination Node: B13_HS  
The Environment is unspecified.  
Fire Threat = 099.6  
ALARM - FIRE THREAT
```

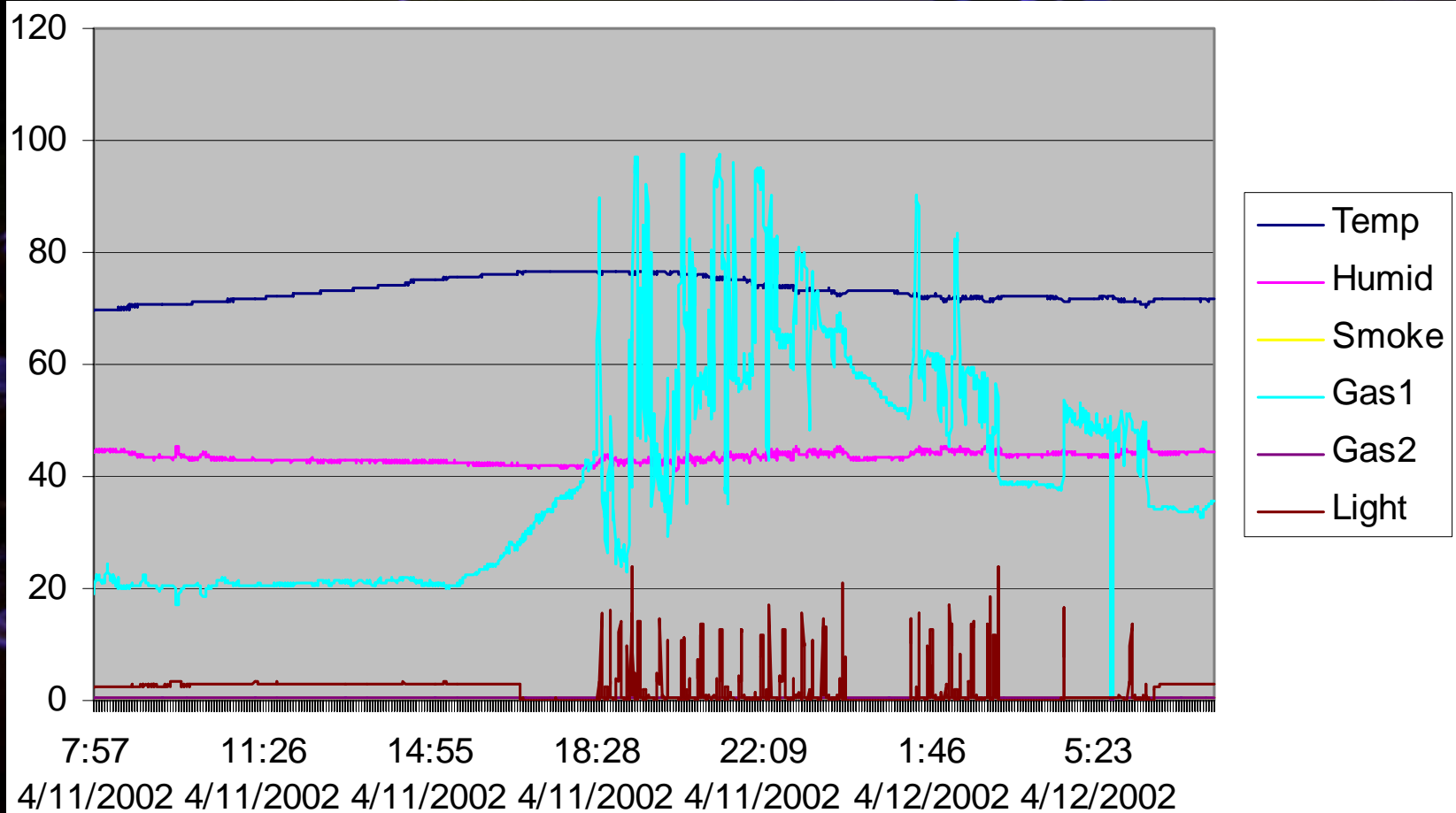
```
-----  
| Sensor | Reading | Threat |  
-----  
| Smoke  | 000.7   | 000.0  |  
-----  
| Gas    | 067.1   | 047.2  |  
-----  
| Temp. F| 073.3   | 000.0  |  
-----  
| Flame  | 006.2   | 052.4  |  
-----
```

# Actual Incident :

# Map Display



# Actual Incident : Time Graph



CyberGuard® demo at  
the United Nations—



# Safe and Effective



CyberGuard® robots have a long record of safe and effective operation in facilities ranging from deserted warehouses to major airports.

# Advantages over Foot Patrol

- Mitigates human foibles
  - More consistent coverage
  - Removes guard from threat
  - Full reporting and recording
  - Detects *much wider range* of threats
  - Adds *an unknown element* for enemy/intruder
  - Allows better use of human assets
  - Reduces cost
- 

# Conclusions

Automated Safety Patrol is an invaluable tool for securing public and non-public places.

ASP systems can be deployed *now*.

