Research has shown that a dog's olfactory sensitivity is millions of times greater than that of a human. Canine detection also greatly exceeds the effectiveness of manufactured odor detection equipment.

On almost 500,000 field searches conducted by K-9 SOS over a two-year period, the non-productive response rate was less than one in 65,000.

Based on laboratory testing at Auburn University's Canine and Detection Research Institute, dogs can detect certain scents in a concentration at least as low as 400 parts per trillion. It should be noted that even that astounding result does not precisely define how sensitive the dog's sense of smell really is. It just indicates that no research technology currently exists that can test a dog's sense of smell below that threshold.

In a report published by Auburn's Institute, Dr. L. Paul Waggoner concluded that the properly trained and maintained explosive detection dog is the most effective readily available explosive detection tool.

Revolutionary Approach by K-9 EODS

K-9 EODS has taken a revolutionary step forward in the field of canine target odor detection methodology with the introduction of the **System**.

The objective of this approach is to establish a sampling system that maximizes the odor detection capabilities of the canine and minimizes external contamination.

The benefit is to decrease the amount of time required to effectively screen a subject and to increase coverage from a sampling of subjects, to each and every subject by passing them through the **System**.

Additional benefits include:

Increased Safety and Reduced Anxiety – Unlike in field sampling scenarios, the canine does not approach subjects, much less come into physical contact with them in any way. In fact, the canine and handler are completely hidden from subjects' view, eliminating the anxiety sometimes felt or expressed by subjects who are afraid of dogs.

Increased Efficiency and Accuracy – By reducing unnecessary external contaminants to the odor detection process and establishing the continuous flow of clean air across and around subjects directly to the canine, K-9 EODS can improve the remarkable non-productive response rate achieved by K-9 SOS from the 1 in 65,000 achieved during 500,000 searches over more than two years of actual field searches to one in a million. Handler-error induced factors are minimized because the handler is virtually uninvolved in the search. It is possible for the dog to be completely unleashed while the searches are in process.

The K-9 EODS is composed of the following major components:

- **Air Locked Entry and Exit Door Configurations** – The entry and exit doors are designed to significantly limit external contamination. The dual door configuration creates an air lock entry and exit so that the screening room is not exposed to external elements. Alternatively, a revolving door accomplishes the same results.
- **Screening Room** – The screening room is the area of the system through which subjects enter and exit, passing by a contiguous observation room. Clean air is circulated over subjects as they pass through the screening room and through air vents into the observation room. The screening room is separated from the observation room by a partition containing a two-way mirror with the mirrored surface facing the screening room. This allows the canine and the handler to view subjects while remaining unexposed to subjects. The partition also contains louvered vents through which the circulated airflow passes. The air sample can be carried to the dog by piping if air vents are not appropriate for the particular location.
- **Observation Room** – The observation room, which is also segregated from external contamination by keeping the entry door closed, adjoins the screening room. It allows space for the canine to stand and move back and forth as it smells the air flowing over passing subjects and through the air vents. There is also adequate space for the handler to stand as the canine works. The space provides a comfortable, temperature-controlled area for the handler-canine team to operate that allows both the canine and the handler to observe subjects as they pass without themselves being seen.
- **Air Handling Unit** – An efficient air-handling unit filters and circulates a closed air system continuously through the screening room and into the observation room. The unit also conditions the air to provide a comfortable, ambient temperature for the handler-canine team.
- **Generator** – A quiet, liquid propane powered generator that can be used to power the system is located in a storage area outside the screening room.

K-9 EODS Mobile Deployment Systems

K-9 EODS has mobile deployment systems that can be deployed rapidly to a customer's site for immediate operation. A deployment **System** can be utilized in areas where no immediate source of electricity exists because the unit is self-sufficient, requiring no external resources to function. The **System** allows for quick set up time. The average time to set the unit up for operation once it is in place is approximately 10 minutes. It also takes only 10 minutes to get the unit ready to travel again. Therefore the **System** works well for random checkpoints.

K-9 EODS Vehicular Systems

A **System** can be configured to search vehicular traffic as it continuously flows through our detection unit. Traffic can pass through individually or several lanes of traffic can move through the system simultaneously. Air samples are taken and delivered to the dog in real time.

K-9 EODS • PO Box 4277 • OAK RIDGE, TN 37831 • (865)363-4803 • www.K9EODS.com

K-9 EODS
ENHANCED ODOR-DETECTION SYSTEMS
Working in cooperation with K-9 SOS

Introduces
A Revolutionary Approach to Canine Target Odor Detection

www.K9EODS.com

Introduction

K-9 EODS has developed and is marketing a revolutionary new approach (patent pending) to canine odor detection that is flexible enough to be applied in a wide range of settings, such as initial approach or entry into secure facilities and mass transportation terminals. ***Many existing facilities can be retrofitted to accommodate a K-9 EODS system without extensive new construction.***

A **K-9 EODS** system (referred to herein as **System**) is a precision-built and -operated physical monitoring station that allows a canine to quickly, efficiently, and unobtrusively screen subjects as they move through an environmentally controlled screening room for target odors, such as explosives. A **System** can be configured to meet specific customer needs and requirements and be built on customers' premises for long-term utilization or a customer may utilize a Mobile Deployment System, which can be rapidly conveyed to almost any location for immediate use.

The internal **System** is isolated from external conditions and contamination – such as wind, temperature extremes, humidity, extreme noise, and dust by a carefully engineered entry and exit configuration. Subjects enter and exit the screening room through dual doors forming an air-lock entry/exit or a revolving door. This entry and exit configuration also greatly reduces the possible introduction of target odors from outside the **System** – such as explosives carried by a subject who has not yet entered the **System** – which could cause the dog to alert on the wrong subject.

The screening room has an efficient airflow system that directs a stream of clean air over and around subjects, thereby releasing any target odor from clothing, skin, hair, and other surfaces and then routes that airflow through vents to a highly trained canine in a contiguous observation room. Subjects are visible to the canine and the handler from the observation room through a two-way mirror, but the mirror side faces the sampling room rendering the canine and handler invisible to subjects.

When the dog alerts in response to detecting a target odor, the handler immediately signals in the indicated manner, such as pressing a button, to alert security personnel.

The **System** offers several significant advantages:

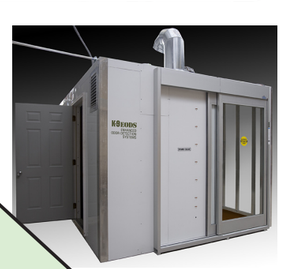
- **Efficient** – Subjects can be sampled rapidly and continuously without pausing or interrupting the traffic flow. The odor is delivered to the dog in real time. There is no waiting for results such as from a detection machine. Also, the dog does not have to move to the subjects. The dog is in a stationary position, which results in much less fatigue for the dog.
- **Safe** – The sampling is done without the canine having to directly approach or touch subjects.
- **Controlled Environment**– Canine and handler are not interrupted or distracted by external contamination, such as weather conditions, temperature extremes, wind, humidity, excessive noise, or external odors.
- **Accurate** – Each time a possible target moves by the dog, the dog has a thorough and consistent air sample presented to it. This makes the response of the dog **very** predictable. Therefore, there is little to no chance for the dog to fail to respond to the presence of a target odor. In addition, that same set of environmental factors leads to a very low chance of false alerts. The **System** allows an extremely low "non-productive response" (false alarm) rate that may approach 1 in a million samples.
- **Flexible** – The **System** can be configured to meet customer demands, typically by retrofitting existing facilities, and may include a sampling room up to 60 by 100 feet through which multiple subjects (100 or more) may pass continuously. Subjects may be pedestrians, vehicles, cargo containers, or items on a moving conveyor. The target odor may include explosives, narcotics, chemical weapons of mass destruction, or other odors the client may wish to target. In addition, a client may "tag" items they wish to protect with a target odor known to the dog. The **System** will prevent theft of the protected items such as computer disks.

Canine Target Odor Detection Enhances Modern Security Programs

Detection dogs are widely used by local, state, and federal law enforcement, the military, and security companies. This growth and widespread acceptance is explained by one key factor – odor detection by dogs can be extremely effective

Continued on back

CRITICAL SYSTEM COMPONENTS



AIR LOCK ENTRY AND EXIT...

isolates external contamination–such as wind, dust, temperature extremes, loud noises, lighting extremes, distracting odors, and target odors – from inside the system.

System Entry Steps:

1. Exterior door opens and subjects step into airlock space between the doors. Vent in ceiling of airlock flushes clean air through the airlock and contaminated air out the open entry door.
2. Exterior door closes. Interior door opens. Vent in airlock flushes clean air over subjects and into Screening Room. Subjects leave airlock and enter Screening Room.
3. Interior door closes.

System Exit:

Steps above reversed, maintaining uncontaminated internal system environment.

SCREENING ROOM...

is an internal system passageway through which subjects move unimpeded to the exit.

- An efficient airflow system directs a stream of clean air over and around subjects, thereby releasing any target odor from clothing, skin, hair, and other surfaces and then routes that airflow through vents to a highly trained canine in the Observation Room.
- The Screening Room is separated from the Observation Room by a partition containing a two-way mirror with the mirrored surface facing the screening room. As a result, the canine and handler in the Observation Room remain invisible to Subjects in the Screening Room.
- The partition also contains louvered vents through which the circulated airflow passes

OBSERVATION ROOM...

provides adequate, comfortable space for the canine/handler team to work.

- The Observation Room remains segregated from external contamination by keeping the entry door tightly closed.
- The canine stands and moves back and forth as it smells the air flowing over passing subjects and through the air vents.
- If the canine detects a target odor and alerts the handler, the handler responds by performing the agreed-upon action, such as pushing an alarm button, to notify security personnel.

AIR HANDLING SYSTEM...

circulates filtered air continuously through the System.

- The air intake is installed in the back of the Observation Room.
- The system forces air into airlocks and the Screening Room through the ceiling vents and draws the airflow through the louvered vents past the canine.
- The air handling system also filters air and conditions it to provide for a comfortable System temperature.

A Mobile Deployment System, like the one being towed here, can be quickly dispatched to any location.