Scents for Canine Evaluation and Non-Hazardous Training System Of Unified Research, Certification, and Education **SCENTSOURCETM** 



**IN ODOR /E TRUST** 

# THE WORLD'S FIRST INTERNATIONAL CANINE BIODETECTION APPROACH TO ADOPT THE USE OF STANDARDIZED ODOR SIGNATURES AS THE FOUNDATIONAL BASIS FOR ITS EDUCATION, TRAINING, AND CERTIFICATION ACTIVITIES

# **HISTORY, JUSTIFICATION, OBJECTIVES & METHODS**



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# **1. THE PROBLEM**

## 1.1 <u>CANINE BIODETECTION: KNOWLEDGE ALIGMENT AND THE PROFESSIONAL</u> VACUUM BETWEEN SCIENCE AND PRACTICE

The use of working dogs as biosensors and biodetectors, with or without the complimentary use of electronic detection equipment, is now an internationally accepted and well-utilized method in the non-invasive detection of an illicit or hazardous target material, substance or object.

Although it is well known and documented in the field of chemical and biophysical olfaction, and within our research activities at ScentLogix Laboratories, that a materials' odor, or fractals of it, is the property used in the odor-enabled detection of target materials by canines and other nose-harnessing detector animals (e.g., rats} and insects (e.g., bees), the past and current understandings that drive educational and programmatic initiatives within the detector-K9 industry globally are governed by a single traditional premise that a canine detects the "target material" and not the "source of odor." This belief is then further (and wrongfully) extended with a seemingly-logical supposition that the target materials to be detected themselves should represent the gold standard of training aids for all scent-detection imprinting, maintenance-training and certification protocols since detector canines are best-trained using the operational-target materials they are supposed to find as training aids.

As a result of the international institutionalization of these misconceptions, detector canine training programs are globally developed and operated using operational targets as training aids. However, even with the international adoption of this assumption, the operational materials selected for use as training aids are generally non-optimized for performance. They are ungraded, materialistically impure, typically adulterated, and certainly odoriferously misunderstood. Additionally, detector-K9 programs are still lacking some fundamentals necessary for true professionalism. These include (i) the lack of profession-unifying descriptors and definitions; (ii) the lack of using fundamentally-valid units of qualification and quantification (e.g., surface area, odor generation rate, use of the Kelvin scale); (iii) the lack of a training aid "odor standard" that is defined in terms of scent-signature composition, purity, and consistency; (iv) the lack of optimized indices useful for the assessment and measurement of detector-K9 proficiency performances or training outcomes, and, (v) the lack of capabilities to unify and fuse data from the performances or training outcomes, sources, quantities of training in different regions of the world while using different types, sources, quantities of training odor and training aids.

Due to a current weak understanding of the scientific underpinnings of the interactive mechanisms between biosensing physics, cognition, odor chemistry and their rudiments, these traditional beliefs are also shared by most scientists working within the detector-K9 community. So, just like most practitioners, scientists within the detector-K9 community also acknowledge that the operational target material is the *de-facto* gold-standard of training aids and that its effectiveness is unmatchable,



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above question, beyond reproach, and should be regarded as being amongst the non-questionable variables dictating the performances and operational outcomes of a detector K9.

The proliferation of this belief across the scientific realm is typified in published statements such as, *"however, concern over the validity of canine detection has persisted due to unknowns involved in the mechanism through which canines detect odors..." "no one truly knows what a canine smells..." and "there are two classifications of scent-training aids – pseudo and real."* It is also embodied in scientific advice, teachings, publications and protocols shared by a strong consensus of leading industry scientists who specify that only operational targets can be used for a *bona fide* certification of a detector-K9 team. These recommendations are coupled with funded efforts to standardize the operational target as the odor-detection aid and advancements in these efforts are typically communicated as scientific publications geared toward achieving these aims.

However, certain pertinent questions arise from these views, such as

(a) how can a practitioner understand the mechanisms through which canines detect odor when there are no proactive efforts to educate them on what the odors of their basic, typical, and traditional target materials (such as C4, TNT, or Cocaine or Heroin) are comprised of?

(b) how can canine-detection practitioners be fundamentally imprinted with the primary understanding that a K9's detection target has absolutely nothing to do with the physicochemical properties of the target material, but in the odoriferous properties and odor profiles generated by the target material, the source of which the K9 has been trained to find through a search-and-detect process after an act of odor imprintation?

(c) what can practitioners do to identify, excise, and/or prevent the professional adaptation of erroneous training methods that have fallen short of scientific logic, such as the use of semipermeable plastics, membranes and metal containers as odor dispensers and the misinterpretation of odor profiles and their genesis?

Whilst the practical truth is that the operational success of a detector K9 hinges on its handlerpractitioners' perception of what a K9s target is – the "target material" versus the "target material's odor" - the scientific truth is that a K9 does not "find a target material" such as cocaine or TATP. Instead, it "finds the source of the odor that it has been trained to find" and as generated by the material used as the odor source during the K9s imprinting and training processes.

The inability of the detector-K9 industry to adapt this understanding as a fundamental fact has, unfortunately, negatively impacted the decisions of working dog human-partners, their stakeholders, decision-makers, and program managers during their development of operationally-effective detector-K9 training programs. Furthermore, a lack of acknowledgement of error within established training methods, and the managerial-level resistance to incorporating new ideologies to rectify institutionalized errors embedded within training methods and protocols (in some cases, due to the paper-work required to effect change) has put a huge void in the knowledge and the understanding of



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boots-on-ground trainers and handler-practitioners about the practices beneficial to (and sometimes necessary for) effective scent detection training outcomes.

Impactful benefits are always expected from the collaboration of science with practice. It is universally agreed that there is an undisputable science associated with the workings of senses; therefore, there is a need for basic and applied odor-biodetection research by scientists, and also a need for the lessons learnt from these scientific activities to be applied towards detector-K9 training practices rather than lie dormant as scientific opinions or publications. Science should not only theoretically explain the "why?" and "how" of detection, it is also supposed to unquestionably enhance canine team proficiency when it is applied to training in consistent and repeatable ways.

Currently, scientific research cannot explain many of the questions practitioners ask - for example, it currently cannot explain why the odor of target materials commonly comprise of odoriferous materials that are structurally different from the target material itself (e.g., why there is no RDX in C4 odor, no THC in Marijuana odor, no PETN in Semtex odor or no Cocaine in Cocaine odor). In some cases, unexplainable observations published in recent scientific journuals also happen to be validations of observations practitioners have made for decades but cannot also explain why (e.g., why can't a detector-K9 imprinted and trained on 10 of a material find 10 Kg of the same material; or why can't a K9 trained on US TNT not find EU TNT with the same definitive regularity when deployed?). It seems evident that in a world of practical science, academic scientific work is planned and executed without the collaborative contributions of the prior operational experiences, observations, and training data from practitioners. Such contributions are necessary for scientists to use as a primary guide and practical template for planning experimental methods that would yield practically-useful data.

Concomitantly, there is also a need for a brave new move by the detector-K9 practitioner community to independently or collectively engage in structured practices that can provide standardized practitioner data that can further assist scientists to unravel the enigma of odor. How? There is a simple answer to this – since the currency of material detection is the odor-training aid, obtaining structured data starts using standardized scent training aids.

This is yet to be achieved.



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#### 1.2 <u>CANINE BIODETECTION: DATA ALIGNMENT AND THE INTERPLAY BETWEEN</u> <u>IDEOLOGICAL BELIEFS & DETECTOR-CANINE PERFORMANCE OUTCOMES</u>

In the 21<sup>st</sup> century of things, it is possible to classify the working dog community into two distinct ideological groups whose beliefs shape their decisions in choosing scent-detection training aids for their scent detection programs. These groups are as follows:

#### A. Ideological Group 1: Material-Focused

The first of these groups suppose that the operational target material is the true scent-training aid, aka "real." Within the explosives' detection community, the definition of "real" extends to any material that contains 8% of the target explosive within the training aid composition. Within the drug detection sub-community, "real" is any material that contains enough of the target substance (drug) to test positive on a basic field colorimetric test. The same ideological group collectively regards scent-training aids that do not contain any amount of the target material within the composition of the training aid as "not real," "fake," "pseudo," "unreliable," "not recommended for use," and definitely "not recommended for detector team certification purposes."

This ideology is largely based on an institutionalized misconception that a scent-training aids' physicochemical (material) similarity to a target material is the sole contributor to detection. Most scientific groups, academic institutions, subject matter experts, policy decision makers, and industry leaders within both government and industrial institutions, worldwide, support this ideology. Within the context of this ideology, nothing is done to identify or/and address the contributions of the materials odor to the reliability of a scent training aid. For them, it's a case of "pseudo vs real" where pseudo means "fake" and real means "original" (or natural).

Ultimately, this ideological group only considers the origin and physicochemical properties of the target material, which is now addressed as the training-aid, aka "real." Within this group, material purity is not taken into consideration, just its presence. Even within this concept of real adopted by this group, there are no logical arguments or guides from which to form odoriferiously-standardized aids - for there are no current standards regarding material purity, surface area minima and maxima, handling (for contamination) or storage (for regularized longevity) methods for their training aids. The ideology is far from being scientifically logical; nonetheless, it is currently the industry-adopted understanding of training aids and it dictates the ways training aids are selected within detector K-9 training programs worldwide.

#### B. Ideological Group II: Odor-Focused

The second ideology evolved from a new set of understandings, definitions, rules, and practices derived from the research activities' of ScentLogix<sup>TM</sup> and from the training acts and outcomes of a growing international and multigenerational group of practitioners seeking a more scientifically structured approach to detection. This ideological group fundamentally believe that "*a scent-detector K-9 does not find an operational target, it finds the source of the odor it has been trained to find: the* 



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*scent-source.*" They believe that target materials' odor is the true training aid and not the target material itself. They believe that ideology of the material-focused group completely misses the mark because it does not address the true training aid itself, odor. Instead, the target material that they address as being a training aid is actually a "training-aid producer" or an "odor-generator" which, in most cases, is not characterized by any of the material properties and conditions known to affect the quality of the odor it is generating such as age, purity, handling history, oxidative state, surface area, odor-generation rate, and effects of containers and packaging. Moreover, the scientific underpinning of ideological group II answers a lot of the questions on the known limitations of training outcomes that ideological group I cannot explain, such as the reasons for differences in K9 responses to varying quantities of a target material, and its manufacturing methods too.

Ideology II places a requirement for all odor/scent training aids used, no matter their origin, to be classified primarily by the quality of the odor/scent they provide. Since this ideology allows for the consideration and implementation of scent training aids that have no material relationship with the target material, a preferred embodiment is the use of well-tested non-hazardous odor training aids that combine excellence in training outcomes with circumventing the need for laws, licenses, restrictions, apparatus and procedures typically needed for the transportation, storage and practical use of materials that might otherwise be illicit, hazardous, or unobtainable for implementation within detection training protocols.



Fig. 1: WHERE DOES THE WORD "PSEUDO" COME FROM? AN EXAMPLE OF INSTITUTIONALSED MISINFORMATION:

A BOTTLE OF "SIGMA PSEUDO™" SHOWING (i) THE ORIGIN OF THE WORD NOW USED AS A DEFINITION BY A LARGE PERCENTAGE OF THE DETECTOR K9 COMMUNITY (INCLUDING ITS AFFILIATED SCIENTISTS) AND, (ii) THE WORD IS ACTUALLY A BRAND TRADEMARK.



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# 2. THE OPPORTUNITY

#### "A SCIENCE BACKED, ODOR FOCUSED, SCENT DETECTION TRAINING & CERTIFICATION APPROACH"

## SCENTSOURCE<sup>™</sup> – AN "ODOR-FIRST" SCENT-DETECTION TEACHING, TRAINING AND CERTIFICATION APPROACH GLOBALLY UNIFIED THROUGH VOCABULARY, NOMENCLATURE, DEFINITIONS AND DISCRIPTORS, ODOR CURRENCY, UNITS & QUANTITIES, AND PRACTICE

From ideology II arises the need for an applied practical training-philosophy/system/paradigm devoted to advancing the use of odor as a foundational basis of training and practice in the biosensor/working dog world, and for such practices to be performed professionally and under a unified system of definitions, nomenclature and understanding that are legitimized by discoveries, true definitions, peer-reviewed publications, and proven-understandings that cross-cut with those of other sciences and professional practices.

It is with these logical understandings and deductions that we proudly announce the establishment of an international and interdisciplinary bio-detection and detector-K9 team training philosophy that is open to all agencies, institutions, academics, associations and individuals that seek facts, theories, good practices, appropriate logic, and applications that are advanced and developed from the perspective of odor being the *de-facto* training aid of the scent-detection working dog, plus its being the working tool of the handler-practitioner and any other who may want to obtain a well-structured theoretical and practical training in this neglected truth.

This system will also operate a global scent-detection training and certification program using a decade-tested, science-backed, and practitioner-validated suite of non-hazardous canine bio-detection training aids specifically designed to serve as *"odor standards of the target materials they represent"* and to act as a standard on which K9s trained using other types and forms of biodetection training aids can be benchmarked against.

This system, aptly named <u>Scents for Canine Evaluation and Non-hazardous Training System Of</u> <u>Unified Research, Certification, and Education</u> (SCENTSOURCE<sup>TM</sup>) intends to stand out as implementing the industry's first international certification regimen that combines practitionerbacked odor-based training with

(i) a reliable set of science-defendable standards and definitions,

(ii) a dynamically robust and complimentary research, development, and knowledge-building initiative,



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(iii) a suite of well-characterized, standardized and scalable non-hazardous canine biodetection training aids that have been operationally proven to be superior stand-alone alternatives to material-based detection training aids; and,

(iv) proof-laden legal backing to defend the use of these aids and to explain the intricacies of olfactics and detection logically, effectively, and successfully, in a court of law.

Within its processes, SCENTSOURCE<sup>TM</sup> will set and maintain the standards of knowledge and practical skills needed to serve as a body representing the best practices of the scent-detection working dog community, to the industry, the respective communities they serve, and to legislative bodies. Scientist-members within SCENTSOURCE<sup>TM</sup> will integrate relevant interdisciplinary aspects of the sciences (physical, chemical, neurobiological, and behavioral) with the operational experiences and behavior conditioning and modification techniques of seasoned practitioner-members in order to identify, adopt, and integrate appropriate concepts, definitions, standards, methods, practices and technologies that will enhance the ease and efficiency of obtaining positive practical outcomes within detector dog activities and programs. Our goal is a better understanding of the interaction between a dogs' nose and odor, and of the mechanisms leading to its ultimate perception of a target material, so that we may communicate with our detector dogs better and train them better.

Also, and as an industry first, SCENTSOURCE<sup>TM</sup> will provide modular and scalable certifications in scent detection that are scientifically defendable and internationally recognized. We will ensure, (i) an effective and lossless communication of validated scientific, technical and practical information from SCENTSOURCE<sup>TM</sup> scientists to the SCENTSOURCE<sup>TM</sup> practitioners for incorporation into practice within its membership; (ii) the distillation of SCENTSOURCE<sup>TM</sup> practitioner data and experiences into scientific experimental plans and setups that can be implemented to generate useful and accurate data, followed by an intelligent feedback of such results and their generation into packets of practical information that can thereafter be shared through practitioner-led workshops, seminars, lectures, publications, and training exercises; and, (iii) a cooperativity of both the scientific and practical components of SCENTSOURCE<sup>TM</sup> in making joint applications for funding and grants in collaborative projects that benefits the mission and its aims and objectives.

The ultimate goal is to merge science and practice with an intensely focused display of hard-work, honesty, integrity, data-sharing and inter- and cross-disciplinary professionalism that will naturally bring a better scientific understanding of olfaction, of its practical impacts, and of creatively optimizing its applicability within the international detector dog community.



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# **3. THE INNOVATION**

#### "THE INTRODUCTION OF AN ODOR STANDARD FOR CANINE DETECTION AND PROVISION OF THE INDUSTRY'S FIRST SUITE OF REFERENCE SCENTS & ODORS"

The use of an odor-focused canine biodetection training philosophy that includes an odor standard for certification and training activities is an industry first, and set within the patented work, published scientific underpinnings, and the product line that have been embodied by the ScentLogix<sup>TM</sup> brand of products - an innovative suite of inert, non-hazardous, scientifically justified, standardized, scalable, and portable biodetection-training aids that have been proven to provide consistent and repeatable operational and competition successes that have matched both scientific expectations and the predictions of scent-theory when tested over an 18-year period of research and trials that was initiated through a collaborative research effort sponsored by the United States Marine Corps Special Operations Command (MARSOC) at The Pentagon, and performed at Lackland Air Force Base in Texas, USA.

As predicted by the sciences of biophysics and cognition, ScentLogix<sup>TM</sup> training aids are consistently user-rated as providing the best performance outcomes of any training aid within the canine biodetection (detector-K9) industry, especially when compared to K9s imprinted and trained with operational target materials as detection-training aids. Since product release, K9s imprinted and trained on ScentLogix<sup>TM</sup>-have proven themselves, both operationally and competitively, to show a superior understanding of odor by displaying a seamless transition from imprinting on ScentLogix<sup>TM</sup> to finding operational targets - wherever the type, country of manufacture, types of explosives mixtures, or place of final deployment of these targets - and by making exceptional operational finds that strongly support ScentLogix's own product claims of "providing immunity to the K-9 response anomalies typically elicited by the presence of ultra-large targets or odoriferously-similar materials manufactured through conventional or alternative processes."

Do You Know: Odor-detection training aids can be categorized based on the strength (intensity, flux) of the training odor they produce?

> Low Intensity Flux = "Scents" High Intensity Flux = "Odors"

Competitively, ScentLogix<sup>™</sup> users have certified and won multiple top dog awards in major detector dog competitions worldwide. Within the USA, for example, these biodetection canines have won top honors in numerous competitions including the Vohne Liche Kennel/American Working Dog (AWD) K9 Olympics, The National Narcotics Detection Dog Association (NNDDA) K9 Trials, International Casino and Resorts Working Dog Association (ICRWDA) K9 Competition, and United States Police



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Canine Association (USPCA) K9 Trials. These high-performance feats have also been repeated by ScentLogix<sup>TM</sup>-imprinted dogs in other professional detection competitions held around the world, in countries such as Brazil, Mexico, India, and the Philippines.

It is due to the combination of their successful operational outcomes with their explainable science that these *scent/odor-reference quality* training aids are now the scent-training aids of choice within top military, police and private detector working dog programs globally, and the reason for being chosen as the first odor-reference-quality standards for the international SCENTSOURCE<sup>TM</sup> community.

Other specific reasons leading to a SCENTSOURCE<sup>™</sup> justification for selecting ScentLogix's Suite of Scent-Reference-Quality Training Aids as its scent-reference standard for certification and training are as follows:

(i) they have a scientific definition of odor that has been tested and proven by seasoned, credible practitioners of every persuasion, on every continent, and for over a decade, as bringing predictable and consistently-dependable training outcomes;

(ii) the foundational philosophy of their science - that a K9 is trained on odor and not on the targetmaterial and so emphasis should be placed on the actions of odor - is a preferred working philosophy to the community's currently overriding persuasion that the use of operational targets as training aids should still be a priority over any training aid alternative, no matter how superior the performance of the alternative, even though the community is aware of the problems with performance consistencies caused by the application of non-standardized scent-training aids within training;

(iii) they have a working philosophy of K9s being their ultimate peers, and a view that *the effectiveness of a training aid can be proven through its practical outcomes, above publications and other non-fieldproven arguments* – we agree that the act of relating training aid quality to K9 performance is forward-thinking and produces better avenues for realistic education and improvement of both the scientist and the practitioner;

(iv) using a single brand of training aid (i.e., a well-defined, quality-controlled and quality-assured odor profile) allows the unification of diverse data across all members/users, globally. The prospect of each user member being a contributory validator of the outcomes of their training aid brings unsurpassed international variability to training aid data and indisputable credibility to the validity of SCENTSOURCE<sup>TM</sup> aids, methods, observations, teachings, and publications. This synergistic approach will amalgamate the science & practice of scent detection under the umbrella of an standardized, operations-proven, canine biodetection training aid;

(v) there is no other detection training aid available that has been specifically designed or manufactured to be of "odor-reference" quality, or that is defined by its odor-relevant characteristics and generation rates;



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(vi) research by ScentLogix<sup>™</sup> has long exposed the performance inconsistencies caused by the application of non-standardized biodetection training aids within training programs and typically witnessed by practitioners during training or operational searches. ScentLogix<sup>™</sup> scientists were the first scientific group to provide scientific explanations for these inconsistencies, and to have advanced "odor-based training" as a proven solution to the problem;

(vii) each of the 40 cross-cutting canine-biodetection training aids developed by ScentLogix<sup>™</sup> laboratories have been double-blind tested over the years by practitioners worldwide, using both scientifically-validated and operational methods, and without finding a single complaint about product efficacy in any one of them;

(viii) a modern reclassification of canine biodetection training aids based on odor quality and training outcomes rather than origin, was first advanced by Dr. David Adebimpe, an organic chemist, nanotechnologist, educational curriculum developer, a former guest scientist at the sensors division at NASA and former Center Administrator of a National Science Foundation Center of Research Excellence in Science and Technology (NSF-CREST), fits perfectly into the proposed model as a good starting point for structured odor detection training. Armed with a background in the development of nanostructured electronic noses, Dr. Adebimpe undertook a scientific study on the effect of the odor quality of training aids on the performance outcomes of trained detector-K9s and study results clearly indicate that an international, industry-wide paradigm shift from the subjective and inconclusive "pseudo vs real" ideological principles and practice, to the more objective, constructive, logical, and scalable odor-derived principles and practices harnessed with scientific underpinnings is needed for an understanding of odor - the true measurable quantity in scent detection - and for the production of the 21<sup>st</sup> century detector K9 practitioner; and,

(vii) they have access to an international set of brilliant, seasoned, unbiased, scientist and practitioner instructors committed to teaching odor-based curriculums.

## SCENTSOURCE™ IS BASED ON A SCIENCE BACKED, ODOR FOCUSED, SCENT DETECTION TRAINING & CERTIFICATION IDEOLOGY



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# 4. EDUCATION, TRAINING, CERTIFICATION & OTHER ENRICHMENT INITIATIVES

## 4.1 SCENTSOURCE<sup>™</sup> SCENTMASTERS: (PRACTITIONERS, RESEARCHERS, EDUCATORS, VALIDATORS)

SCENTSOURCE<sup>TM</sup> SCENTMasters are a diverse set of practitioners who have been implementing odorbased biodetection training methods, through their use of the ScentLogix<sup>TM</sup> brand, to imprint and train dogs within the detection K9 industry, nationally and internationally, each for a duration spanning over twelve years. During this period, they have implemented the concept and principles of odor-based detection training as part of their theoretical teachings of odor theory and scent detection, and have been involved in imprinting, odor-detection training and certification practices using odor-based training aids as represented by ScentLogix<sup>TM</sup>. In fact, some of these practitioners have also been involved in the fundamental research and development work that led to the establishment of odor-favoring biodetection training aids and to methods incorporated into a series of jointly designed (scientist + practitioner) SCENTSOURCE<sup>TM</sup> training programs. Between them they share over 600 years of training experience and have certified over 4000 biodetection canines that were imprinted and trained using biodetection training aids and odor-favoring training methods.

SCENTSOURCE<sup>TM</sup> ScentMasters are endowed with the ability to facilitate the certification of biodetection canines through odor-based certifications, internationally. They international ambassadors of odor-based training proficient in providing imprint-odor optimization clinics for international detectior-K9s that may need an advanced level of odor-proficiency tunning, and they are the providers of SCENTSOURCE Graduate Level II – IV training programs (more details on these programs are available under a separate announcement). Their activities will be supported by scientific publications and science-backed discussions, practitioner-backed training realities and outcomes, case law, and logic, during circumstances when such support is necessary.

THE SCENTSOURCE<sup>™</sup> odor-based canine biodetection system will constitute the world's first known canine bio-detection training approach:

- Where Odor-Production Quantifiers Are Expressed in Surface Area, Not Weight
- Where Temperature-Measuring Quantifier Is The Kelvin, not Celsius
- Where Certification & Training are Based on An Operationally Proven, Scientifically-Explainable, Odor Standard
- That Promotes Innovative Teaching Using an International Team of Odor-focused, Industry-Leading, and Operations-Experienced Detector-K9 Veterans
- That Uses Terminology, Definitions and Units That Globally Merge Practitioner Data and Unifies The K9-Detection Profession With The Rest of The Scientific World.
- Where "odor generation rate" replaces "vapor pressure" definitions of odor



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• Where Time-Crucial Detection Responses and Simulated Handler Stresses Are Used to Increase the Reality of Scenario-Based Training Activities.

The following international group of seasoned practitioners have graciously accepted the invitation to join SCENTSOURCE<sup>TM</sup> as members of the 1<sup>st</sup> generation of trainer-practitioners endowed with the responsibility of odor-based canine biodetection training and certification, and with the capability of certifying detector-K9 teams internationally. Further names will be announced as they accept our invitations.

Mr. KENNETH LICKLIDER	Mr. TONY GUZMAN	Dr. KEVIN CAMERON
Mr. RICKY FARLEY	Mr. ANTONIO MIRANDA	Mr. KEVIN SHELDAHL
Mr. JASON PURGASON	Dr. SURINDER SAINI	Mr. CHRIS FLI
Dr. PRAMOOD CHUG	Mr. ANDY HANELLIN	Dr. AISHA ABUBAKAR BAJU
Mr. LAZARO CABRERA	Mr. DARRYL DeSANTO	
Mr. WILLIAM PARKER	Mr. ROY PUTNAM	Mr. DEREK COPELAND
Ms. MARY DAVIS	Ms. PAULA LOMAX	Mr. AUSTIN MOON
Ms. KAREN SHIVERS	Mr. KEN PAVLICK	Mr. BRIAN FLEIG
Mr. MARTIN OCHA	Mr. NATE HARVES	Mr. GOKTAN EKER
Mr. RENAN ARJONA	Mr. HECTOR JOGLAR	Mr. RYAN MILBERN
Mr. HEITOR PIRES	Mr. DWAYNE FARRIS	

## **DO YOU KNOW?**

THAT SCENTLOGIX™ BRAND USERS, COMMONLY KNOWN AS THE #SCENTLOGIXGENERATION, CONSTITUTE THE MOST POPULOUS, MOST VARIED, AND MOST DIVERSE GROUP OF PROFESSIONALS USING "A SINGLE UNIFYING AND STANDARDISED SCENT-SIGNATURE PER TARGET MATERIAL," AS A BIODETECTION-TRAINING

#### 4.2 THE SCENTSOURCE<sup>TM</sup> CERTIFICATION PROGRAM

The SCENTSOURCE<sup>TM</sup> Certification program has been developed to serve as the most comprehensive certification standard within the detector K9 industry and the first to use characterized and quantified



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odor as a certification basis. This will be accomplished through the implementation of the suite of scentreference quality odors that have been created by ScentLogix<sup>TM</sup> which has been validated by both scientists and practitioners worldwide. As a result of the advantageous diversity of products available, initial certifications will encompass the following specialty areas:

- Explosives Detection (10 explosives/6-classes, including TATP, HMTD)
- Drug/Narcotics Detection (8 Narcotics/Drugs; can include Fentanyl and/or Xylazine)
- Building Health Detection (Bed Bugs, Mold and Termites; collectively or individually)
- Firearms & Ammunition Detection (all firearms, according to its dictionary definition)
- Electronic Media Detection (Mobile Phones and Digital Storage Media; Separately or together)
- Cargo Inspection
- Oil and Gas Pipeline Leak Detection
- Cadaver Detection/SAR
- Arson Detection
- Tracking

The Certification process itself will be modular and shall consist of the following options:

HANDLER-PRACTITIONER CERTIFICATION: A theoretical and practical psychometric test designed to methodologically evaluate the competence of the examinee as a handler-practitioner.

DETECTOR-K9 CERTIFICATION: This is a modern certification process for just the biodetector (canine), and it involves a series of odor recognition tests to be performed by the canine using an inert material container (glass) and at least 1 other material with may be porous (e.g., boxes), reductive (e.g., membranous plastics), or reactive (e.g., metals) as odor dispensers. Tests are designed to test the cognition of the examinee on target odor as parent odor and as a series of its derivatives typically found under operational working conditions and scenarios (e.g., buried and submerged hides and targets).

CANINE-TEAM CERTIFICATION: This certification involves the dual participation of both the handler and practitioner as a detection team. Both are expected to work cooperatively, synergistically and symbiotically, with a full understanding of how facile detection is achieved and using the backdrop of a series of double-blind, search-and-detect, certification-worthy, real-live simulated scenarios.

## 4.3 OTHER SCENTSOURCE<sup>TM</sup> EDUCATIONAL AND ENRICHMENT INITIATIVES

Detailed information on "SCENTSOURCE Academy" and other available education, enrichment, training and certification programs is available as an accompanying document that you are encouraged to read after this document.

SCENTSOURCE™ CERTIFIED CANINES WILL BE BADGED ACCORDING TO THEIR CERTIFICATION YEARS, TO SHOW SENIORITY AND EXPERIENCE IN ODOR-BASED DETECTION



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# 5. THE INVITATION (INVITATION TO JOIN SCENTSOURCE<sup>TM</sup>)

SCENTSOURCE<sup>TM</sup> is a game changing approach to detection odor education and training that confers stringent-but-advantageous requirements to modern detector-K9 programs and is available for participation by aspiring and professional members of the detector-K9 community and by legitimate detector-K9 programs, teams and clubs, associations and businesses worldwide.

As an associate member (a practitioner who believes on odor-based training), or a SCENTSOURCE<sup>TM</sup> Level I, II, III or IV Graduate Student, a SCENTInstructor<sup>TM</sup>, SCENTCertifier<sup>TM</sup> or SCENTMaster<sup>TM</sup> you receive the following opportunities and benefits:

- Participate in raising the education, training and certification standards of the global detector K9 community.
- Support and strengthen your participation in securing your locality's homeland security initiatives through membership within a cohesive international citizen/government canine biodetection community.
- Participate in efforts focused on being "truly professional" with the use of a unified, international, and scientifically validated set of quantitative definitions, nomenclature, methods and practices.
- Associate your training school, institution or association with a unique networking organization and increase its exposure to the global detector dog community through the SCENTSOURCE<sup>TM</sup> website, newsletter, social media, and events.
- Complimentary access to resumes of SCENTSOURCE members and graduates for recruitment through an online member's directory and forum.
- Gain access to SCENTSOURCE forums, workshops, outreach, biannual conference, and other programs and initiatives at member-only rates!
- Annual recognition awards and prizes to be given for outstanding performances, community outreach efforts, and other similar acts within membership community.

We currently invite enquiries for associate and full membership opportunities within SCENTSOURCE<sup>TM</sup> from Handler-Practitioners; Trainer-Practitioners; Scientists; Industry Attorneys, and like-minded professional enthusiasts. Membership enquiries are also welcome from professional agencies, institutions and associations. Membership is open to international participation; it is non-biased, and we encourage global diversity. Please send email of interest to membership@scentscource.org.

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