

# AGNITIO

Your Voice Biometrics Partner  
for Homeland Security



**SIFT**

**SPEAKER IDENTIFICATION FIELD TOOLKIT**

**SIFT**

- a BS<sup>3</sup> Family member -  
for Military and Intelligence organizations

## Speaker Identification Field Toolkit (SIFT)

a **stand-alone system** designed for **field personnel**

to **capture live voices** and **compare** them

against voices' internal database

- typically field forces, border control and military personnel -

### SIFT

SIFT, based on the precise and ultra-fast BS<sup>3</sup> core engine, is a **stand-alone 1:M identification system** ready to be installed in a portable device, designed to **record voices** of suspects in the field and do **quick searches** within a pre-loaded database of targets of interest (**up to 1000 speakers**).

### Features:

- **Voice Recording (or loading):** SIFT allows users to record the voice of suspects in the field (only 7s of net speech are necessary), automatically converting them to the optimal system settings;
- **Fast search:** SIFT allows users to execute fast searches into the pre-loaded database (1:M identification) in a few seconds. The identification results consist of a **short list of possible candidates** with matching scores ranked from highest to lowest probability.
- **Friendly User interface:** Easy to use user interface providing together with the match a complete profile of the suspect, including biographical info and picture allowing thus a second visual authentication process;
- **Strong front-end capabilities:** SIFT has strong front-end capabilities (audio validation, Automatic Voice Activity Detector (AVAD)) to remove artifacts, noises and non-voice events;
- **Interoperability:** SIFT maintains a full **connectivity** and interoperability with the Master Repository BS<sup>3</sup> system where all voice models are stored and managed;
- **Database management:** SIFT allows users to introduce biographical details and pictures for easy identification of potential candidate suspects. SIFT has been designed to store up to 1,000 speakers.

### Capabilities:

- Speaker Management
- Voice recording on the field
- Speaker Identification (SID)

### Use Cases:

- Quick identification in the field:  
Checking speaker identity (boarder access control, check points)
- Quick identification during an outgoing investigation

### Benefits:

- Live identification (speed up identification of individuals)
- Red light / green light scenario: Green, you go through the control; Red, you do not pass

### Packaging:

- SIFT is delivered as a stand-alone solution ready to be installed in a portable device

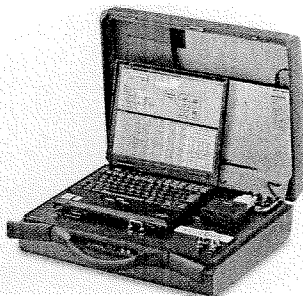


## Customizable Models Offer a Wide Range of Options

All ENGAGE GI2 models house the required hardware in one case: cellular modules - both GSM and UMTS (3G) - power amplifiers, modems, network scanner, laptop, batteries, and antennae.

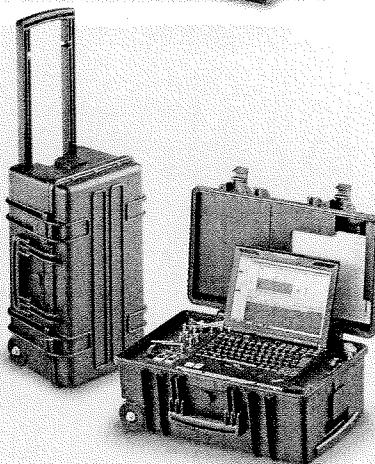
### ENGAGE GI2 Attaché Case (GI2A)

- This covert solution is designed for full portability during pedestrian and vehicular operations and for operations in public areas.



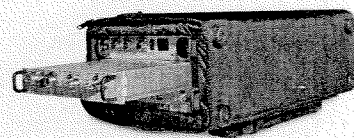
### ENGAGE GI2 Multi-Network Trolley Case (GI2M)

- Compact yet robust, this solution is designed for covert operations that require extra strength without compromising on portability and performance. Several modules can be installed to allow agents to simultaneously interrogate and intercept multiple networks.



### ENGAGE GI2 Integrated Rack-Mount Model (GI2R)

- Intended for demanding, dynamic missions, this model is completely customizable and supports an unlimited number of modules. The solution is easily installed in vehicles and at fixed sites (checkpoints, towers, outposts, etc); its rack-mounted design enables modules to be swiftly slid in and out.



## Features and Options

**Unparalleled power in one small case** - With ENGAGE GI2, you can select from an array of powerful options in one covert case. The case includes full interception kit, batteries, and antennas for quick deployment in any operational environment. If required, ENGAGE GI2 can be controlled remotely to help ensure the security of the operation and its agents.

**UMTS (3G) location finding** - Used with the Verint proprietary homing device, Verint U-Com, ENGAGE GI2 can effectively and precisely locate phones on UMTS networks. Housed in an inconspicuous bag and operated via a wireless PDA, the U-Com is a valuable addition for covert tracking operations.

**Advanced UMTS (3G) features** - These advanced features, which include phone blocking, denial of service, precise distance range estimation and identity correlation, help government agencies identify and apprehend targets avoiding detection by switching their phones to 3G-only mode.

**Exceptional interception capabilities** - The ENGAGE GI2 Call & SMS interception module provides outstanding reliability and voice quality. Further, real-time SIM cloning enables undetectable interception of outgoing and incoming calls on all GSM encrypted networks, including A5/1 and A5/3.

**Advanced Private Network (APN)** - ENGAGE GI2 offers government agencies and military forces the ability to create a private communication network for communications during tactical operations and missions. The solution is quick to deploy, cost-effective, highly secure, reliable, and completely independent.

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## ASIS

AUTOMATIC SPEAKER IDENTIFICATION SYSTEM



## Automatic Speaker Identification System (ASIS)

deployed for building

**centralized voice biometrics databases**

- dedicated to law enforcement organizations -

providing police forces with a **new tool** for **identification**

of suspects and criminals **during investigations**

### ASIS - Feature rich capabilities:

ASIS provides services comparable to existing Automatic Fingerprint Identification System (AFIS):

- Collecting voice biometrics information of known or unknown suspects and related details (e.g. name/group) on a central database;
- Comparing 'field' samples (e.g. intercepted calls) of an unknown individual against voice biometric models stored in the central database (or a sub-unit of it by applying criteria such as Gender or Language): **1 to M identification**.

The identification results consist of a list of possible candidates with matching scores (ranked from highest to lowest probability to show that the audio test belongs to the suspect), thus providing support for further investigations.

ASIS has been designed to cater for different customers' **requirements** (small to large deployments). ASIS takes advantages of **client-server architecture**: deployment cost reduced, no disk space needed on the client's PC, data stored on the server with far greater security controls, control access and resources guaranteed, etc.

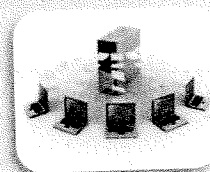
**ASIS** uses AGNITIO's proprietary and pioneering voice biometrics technology (**text independent, channel independent and language independent**) based on unique information extracted from an individual's vocal tract, thus obtaining a high level of accuracy and reliability.

### ASIS Functions:

- Centralized Voice Biometrics Database
- Speaker Identification (SID)

### ASIS Use cases:

- **Storage of voice samples** for further intelligence required in a speaker query



- **Subsequent identification** of speaker/s involved in a case during a Police or Security forces Investigation



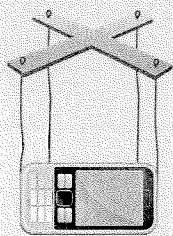
**ASIS's web-based interface is intuitive, scalable and can be integrated into a multi-modal platform including complementary biometrics to increase identification accuracy**

## Portability, Performance, and Options — All in a Single Case

### Manipulate

Assume known identity to trick target into performing actions, such as to attend a meeting or stop unwanted actions

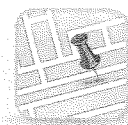
- Send fake messages from any number
- Change SMS content before SMS reaches target
- Reroute calls
- Create calls from any number, real or fake



### Locate

Find exact location of targets' mobile phones for capture or arrest

- Supports GSM & UMTS (3G) networks
- Works with homing devices, such as the Verint U-Com for 3G networks, and/or directional finders
- Activate a silent transmission from a mobile phone and locate it with a homing device or directional finder
- Targets on a GSM network can continue to make calls and SMSs while being located



### Identify

Identify the presence of a mobile phone in a specific area

- Monitor the activity and presence of all mobile phones in an area of interest - GSM & UMTS (3G)
- Receive alerts for target presence, suspicious behavior, and frequently replaced SIM cards
- Correlate a mobile phone number with its cellular identity and vice versa (MSISDN IMSI & IMEI)



### Eavesdrop

Listen to what is being said in target environment

- Remotely activate mobile phone's microphone

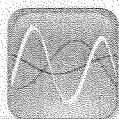
\*Certain limitations may apply



### Intercept

Listen and read incoming and outgoing calls and SMSs

- Supports any network encrypted environment, including A5/1 & A5/3
- SIM cloning for traceless interception
- Intercept multiple targets simultaneously



### Block

Disable mobile phones in hostage situations, raids, from triggering bombs, and so on

- For GSM & UMTS (3G) networks
- Selectively block targets or all mobile phones in an area
- Phones appear to be working normally, but are inoperable





## ASIS - Key competitive advantages:

### → Architecture

ASIS is a distributed system **client-server** whereby the application server responds to requests coming from all Web clients: ASIS provides identification capabilities for multiple operators with multiple simultaneous requests

ASIS is:

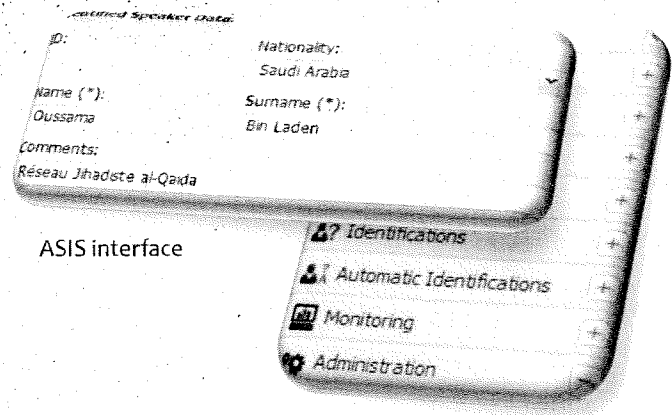
- **Intuitive:** does not require any expertise
- **Scalable:** from a single server to multiple server system
- **Modular:** from 5,000 to 1 million voices stored and from 5 to up 1,000 simultaneous connections

### → Main functionalities

- Database management: registration, modification, deletion, search
- Training (voice model) and launching identification (immediately or delayed)
- Process monitoring and administration
- Database access control (different profiles)

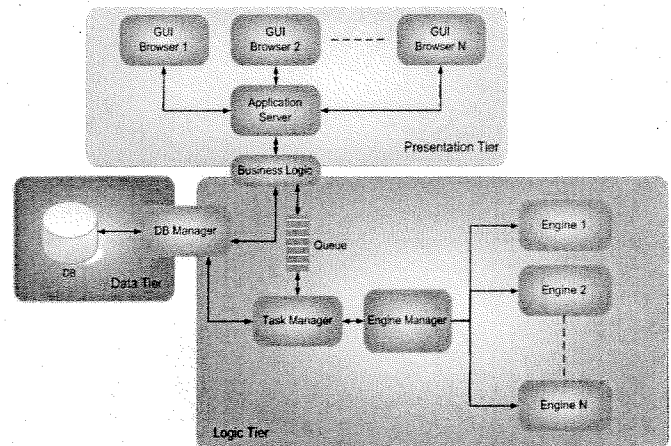
### → Performance

ASIS's multi-engine architecture enables speaker identification among more than 100,000 voice models in 1 minute, on recommended hardware platforms



ASIS interface

ASIS Architecture



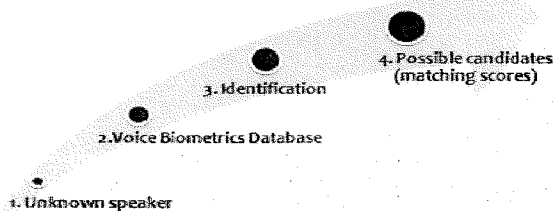
## AGNITIO - Leading Voice Biometric Technology for Homeland Security:

Recent independent tests conducted by International Biometric Group (IBG) demonstrated **AGNITIO's superior voice biometric technology capabilities.**

*'Agnitio identified the correct voice within the top 2 results 99.02% of the time using 60 seconds of audio in a cross channel environment.'*

International Biometric Group  
Research Consulting Integration

AGNITIO's voice biometric consultants are available to provide all the necessary expertise and support to our clients worldwide in order to ensure the best results. Consulting services include voice database creation, basic and advanced training for users and system administrators.



### ASIS in Keywords:

#### 'A pioneering Voice Biometrics Database'

Voice Database Management,  
SID

High Accuracy

Rapid and Efficient

Intuitive and User-friendly

Scalable

Modular

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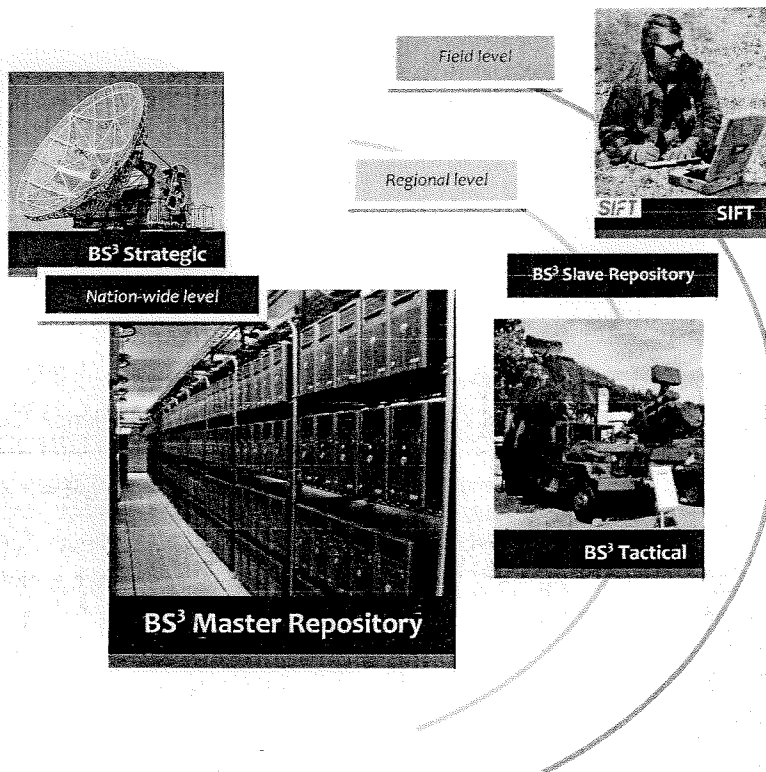
**AGNITIO**

## Key competitive advantages:

Based on the market leading **BS<sup>3</sup> Engine** – Text, channel and language independence

- **High speed performance:** 1:1,000 identification processed within **19 seconds** (fastest scoring time available);
- **Small features and model sizes:** respectively 7kB and 1.8kB (smallest ever used in the marketplace) – allowing up to 1000 times reduction in memory needed;
- **High accuracy:** based on the state-of-the-art GMM/JFA voice biometric technology;
- **Multi-speaker detection:** up to 2-speakers in the same recording with the fastest and most efficient solution available in the marketplace.

(Learn more in BS<sup>3</sup> Engine brochure)



## BS<sup>3</sup> Family

The BS<sup>3</sup> Family of products for speaker surveillance and management for Military and Intelligence organizations consists of:

- **BS<sup>3</sup> Master Repository**, designed to store and search over a large number of Voice Targets;
- **BS<sup>3</sup> Strategic**, designed for mass voice interception and voice mining;
- **BS<sup>3</sup> Tactical**, designed for tactical voice surveillance;
- **SIFT** (Speaker ID Field Toolkit), designed for agents in the field.

BS<sup>3</sup> Family products are **easy to integrate** in all current platforms both in the command and control center and in the field.

BS<sup>3</sup> Family allows an **incremental deployment** of all voice surveillance tasks, from tactical to strategic applications, from human voice gathering to electronic sensors, guaranteeing easy information transfer (communication and data exchange), compatibility and scalability.

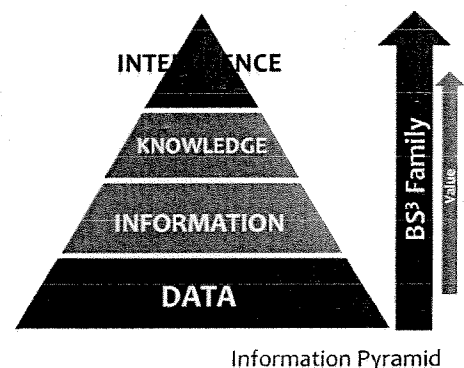
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International-Biometric-Group  
RESEARCH CONSULTING INTEGRATION

AGNITIO's voice biometric consultants are available to provide all the necessary expertise and support to our clients worldwide in order to ensure the best results: consulting services include voice biometrics workshops, advanced training for users and system integrators, best practices (please contact [info@agnitio.es](mailto:info@agnitio.es)).



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