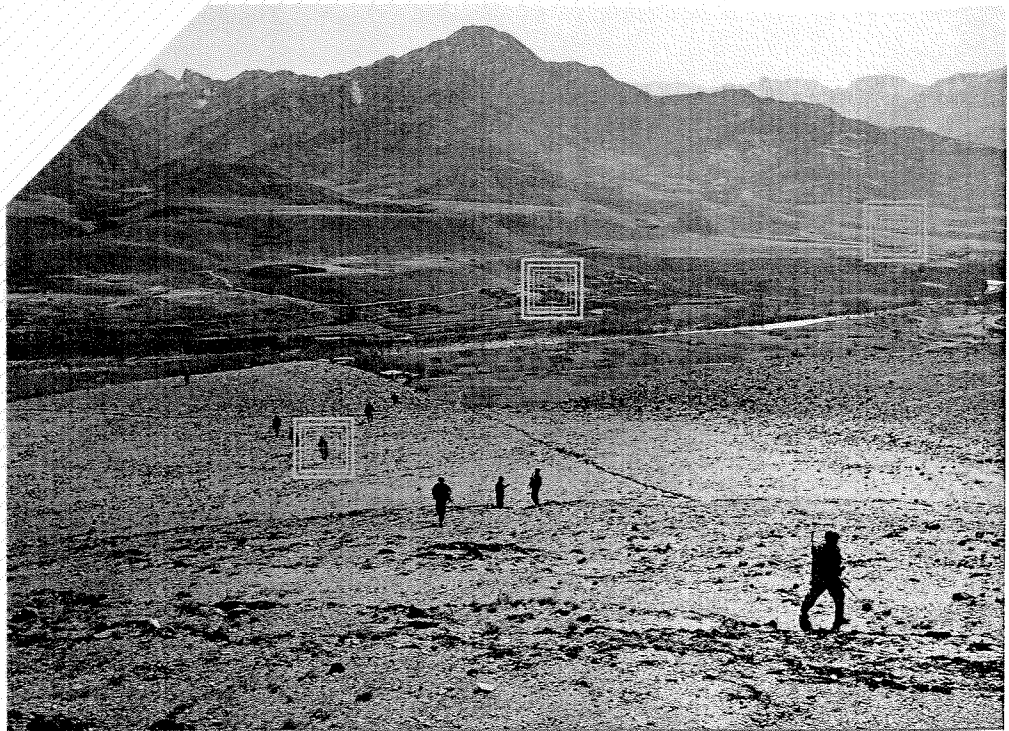# amesys

a Bull group company

COMINT & LAWFUL INTERCEPTION SOLUTIONS

CRITICAL SYSTEMS ARCHITECT

Homeland security

Defense

Amesys is a French company, leader in high technology critical systems.
Our core business has been to develop electronic hardware and software products since 1979.
Amesys provides its customers with the best combination of the three complementary solutions:

- **off the shelf products**
- **technical expertise to customers**
- **designed to specification hardware and software solutions**
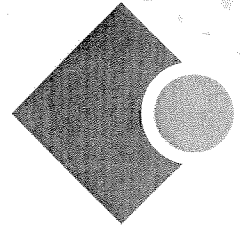
amesys
a Bull group company

Amesys technical expertise is renowned on the Defense/Security market especially for its innovative Signal Intelligence and Electronic Warfare systems.

Over the years, Amesys has developed a complete portfolio of intelligence products answering the needs of both government and law enforcement agencies. With a wide range of captors, Amesys' solutions are clearly designed to fulfill the increasing need of intelligence against new terrorist or criminal threats.

Amesys proposes the widest range of interception solutions systems **for land, air and sea applications**.
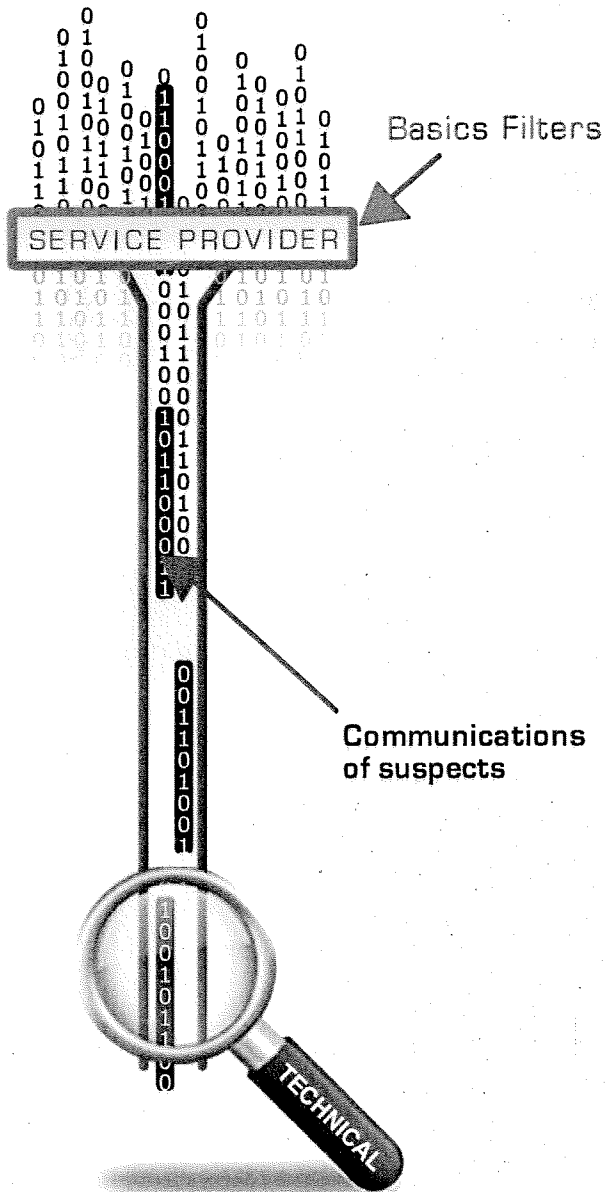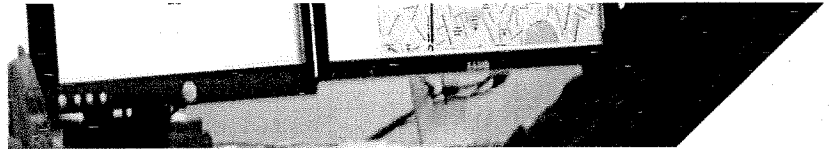
Amesys covers all the COMINT (Communication Intelligence) and lawful interception issues such as **collection** (detection, recording, direction finding and position fixing, identification), **analysis, dissemination, simulation and training**.

Amesys COMINT and lawful interception systems gather intelligence through **passive "listening"** to radio communications and networks.
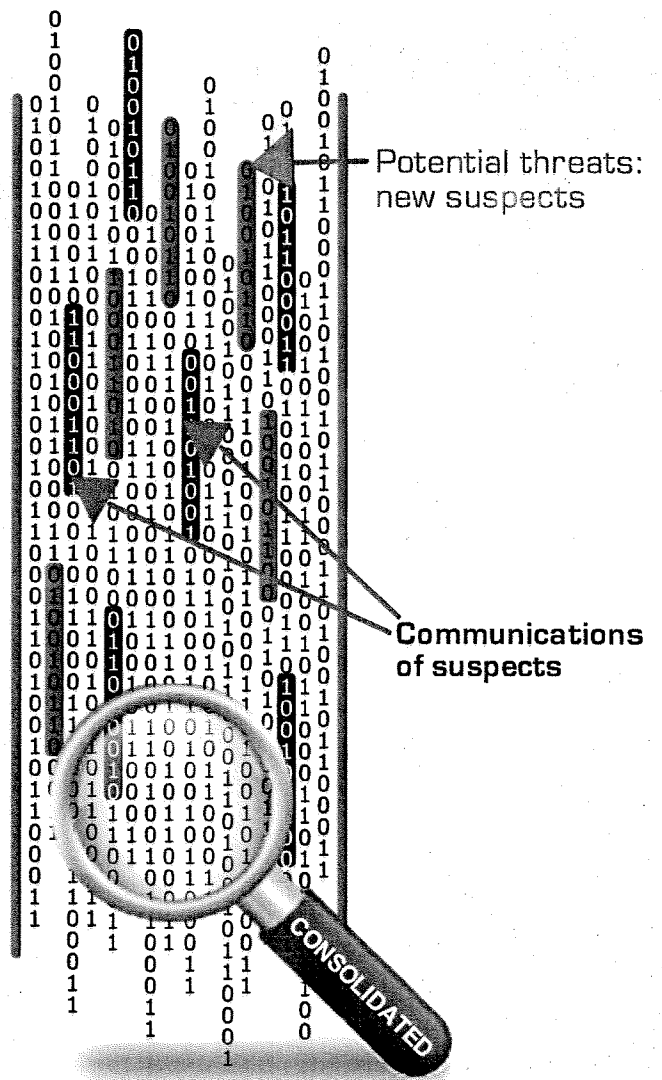
Amesys products are designed on scalable technologies to provide **solutions from the tactical level to the strategic one**.

Amesys maintains its products operational in the long run, thanks to its obsolescence management expertise, protocols follow-up and frequent software update releases.

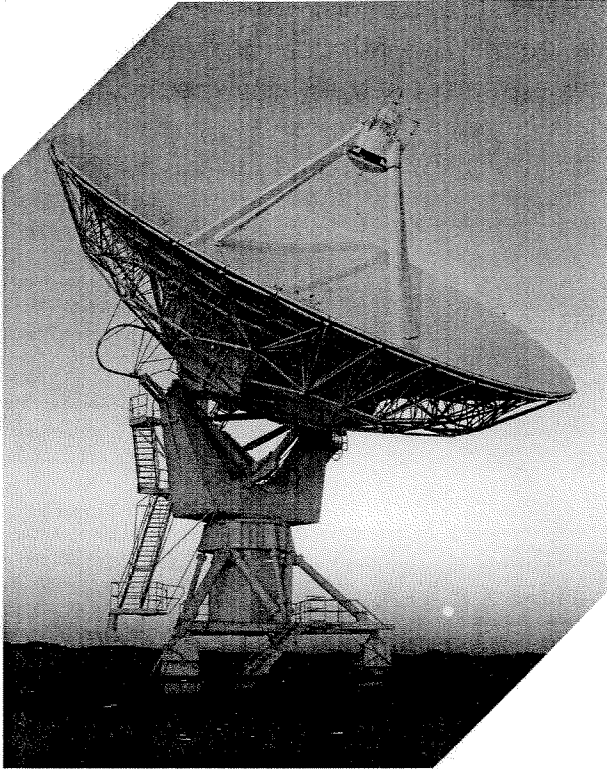Some Amesys COMINT and lawful interception products are submitted to export and sales clearance.

Basics Filters

SERVICE PROVIDER

Communications
of suspects

Potential threats:
new suspects

Communications
of suspects

TECHNICAL

CONSOLIDATED

LAWFUL

INTELLIGENCE

LAWFUL INTERCEPTION

The main goal of Lawful Interception is to **analyze in deep the traffic of predefined targets**. In LI systems, all the target's traffic is duplicated by the Service Provider (phone, mobile or Internet) and is sent to a centralized interception system. Then, the investigators analyze as deeply as possible all the traffic of each target.

A Lawful system should then provide specific tools to help investigators in this in-deep analysis and also dedicated workflows to seal raw contents and to **provide legal evidence to be used in court**.

The LI filters are typically IP addresses for internet interception or phone numbers for mobile or fixed phone interception.

INTELLIGENCE (MASSIVE INTERCEPTION)

Intelligence systems are often much more complex than LI systems, because they have to scan and intercept the target's traffic and also to provide the advanced tools needed to find potential new targets **in**, typically, **billions of communications**. These systems are often connected directly through passive equipments to the service provider network and are able to **analyze the whole country's traffic in real time**.

Intelligence systems include most of the time an optimized archive able to store the input traffic and smart processes to access the huge volume of information stored in that archive.

The Intelligence filters are typically more consolidated than LI ones such as e-mail addresses, nick names, language used, keywords...
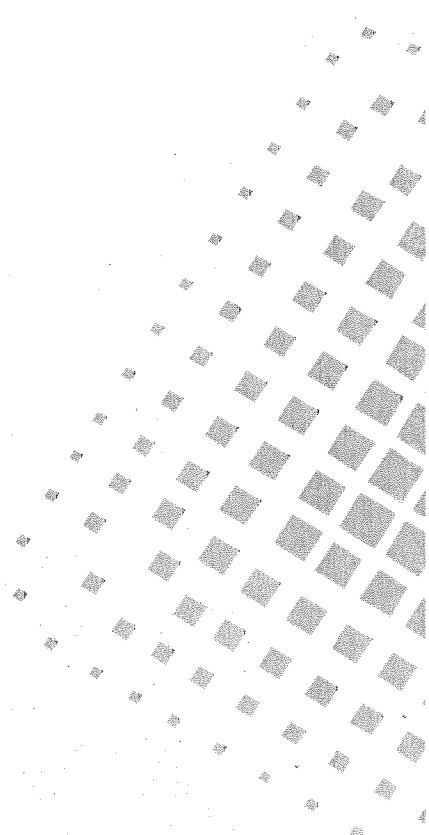
Amesys has developed a complete core technology called EAGLE to cover Lawful Interception and COMINT needs.

EAGLE CORE TECHNOLOGY

EAGLE breaks down in four distinct parts :

↗ **The Captor(s) collecting the data:** Totally passive captors can be used on any type of support to increase the operational coverage of the system.

↗ **The Data Center for classification and storage:** Entirely scalable hardware built on clusters of multi-core processors combined with smart storage management. It improves the analysis and classification capacity of the entire system.

↗ **The Monitoring Center:** Easy-to-use graphical user interface enhances operational workflow and helps operators to increase the effectiveness and the relevance of the production process.

↗ **The Smart Analysis Tools:** State-of-the-art smart modules increase the effectiveness of incoming interceptions classification, including traffic analysis, speaker identification, voice translation, transcription etc.
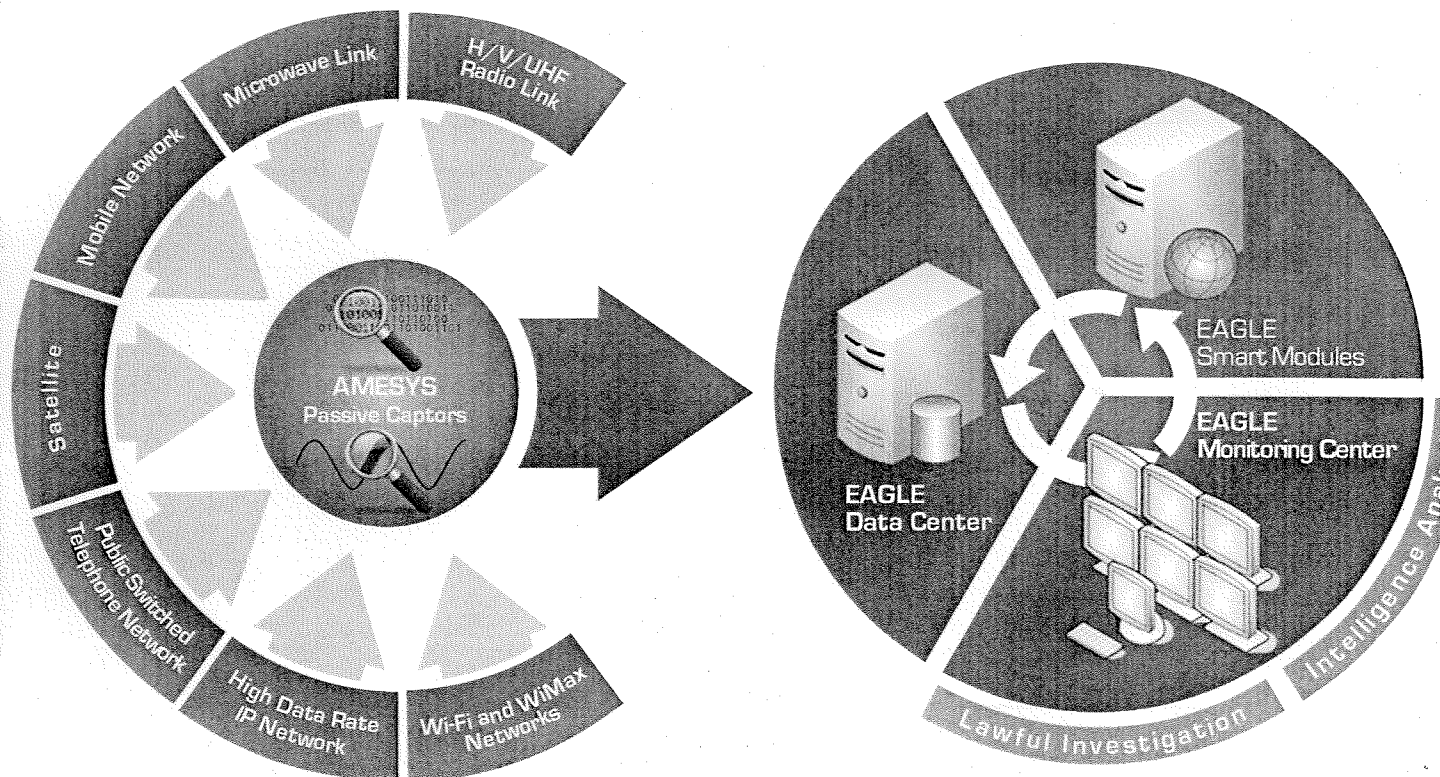
FLEXIBLE AND SCALABLE ARCHITECTURE

Amesys Intelligence Products are designed to help you to keep pace with changing operational needs. All the parts of the EAGLE core technology are designed to fit exactly your needs and to be gradually upgraded to follow the growth of your communication networks.

EAGLE has been designed to be the corner stone of a fully scalable solution that can be interfaced with existing solutions to obtain the best intelligence system. EAGLE is suitable for tactical and nationwide needs.
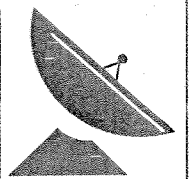
EAGLE CAPTORS
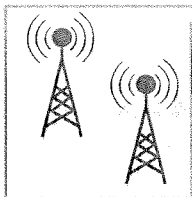
- ↗ Microwave links
- ↗ From 0,5 to 40 GHz
- ↗ Up to 256 QAM
- ↗ Up to 40 Mbauds

GSM/2G/2,5G ↖
Fully passive ↖
A5.1, A5.2 decryption ↖
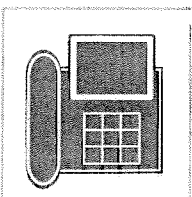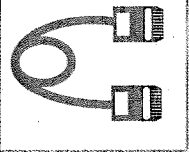Up to 20 simultaneous channels (TCH/FR) ↖
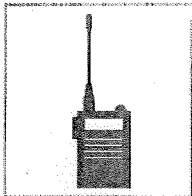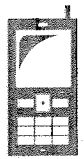
- ↗ Radio links
- ↗ HF
- ↗ V/UHF
- ↗ PMR

Satellite communications ↖
TDMA ↖
DVB-S/DSNG/S2 ↖
VSAT ↖
DCME Solutions ↖
Thuraya ↖
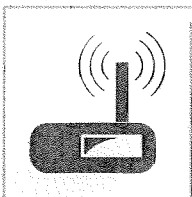
- ↗ WiFi, WiMAX
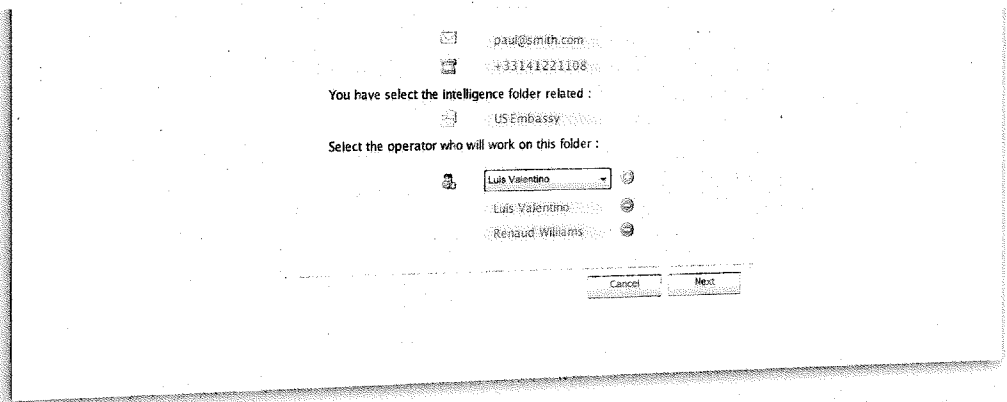- ↗ Passive automatic WEP/WPA decryption

Up to 10 Gbs IP links ↖
Plugged on a TAP or ↖
a switched mirrored port
Grammatical advanced analysis ↖

- ↗ Connect to any PSTN backbone
- ↗ Full E1 decoding and recording
- ↗ Traffic recording trigged by programmable filters

ADSL / ADSL 2 / ADSL 2+ ↖
Plugged between suscriber and DSLAM ↖
Simultanous interception of upload and download ↖
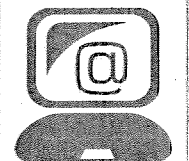
The creation of a folder is very easy to handle. Thanks to a wizard, you can, depending on the use of the system, create folders based on a LIID (Lawful Interception ID) or on advanced criteria like e-mail address, chat identifier, phone number, etc.
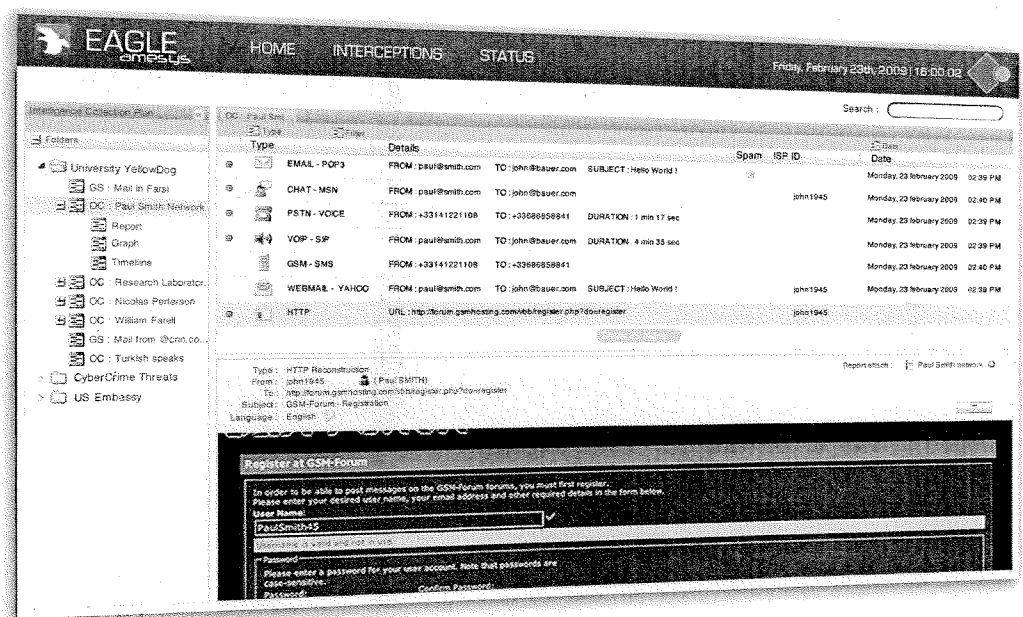
The interface above is the main screen for a specific folder, showing **all the intercepted communications**. The communication selected by the operator is a HTTP reconstruction of the web page accessed by the suspect.

The communication selected above is a voice conversation. In order to enhance the productivity of the investigators, Amesys includes in its solution a smart module that **automatically provides a voice transcription**. This feature can also be combined with a module of **speaker recognition.**
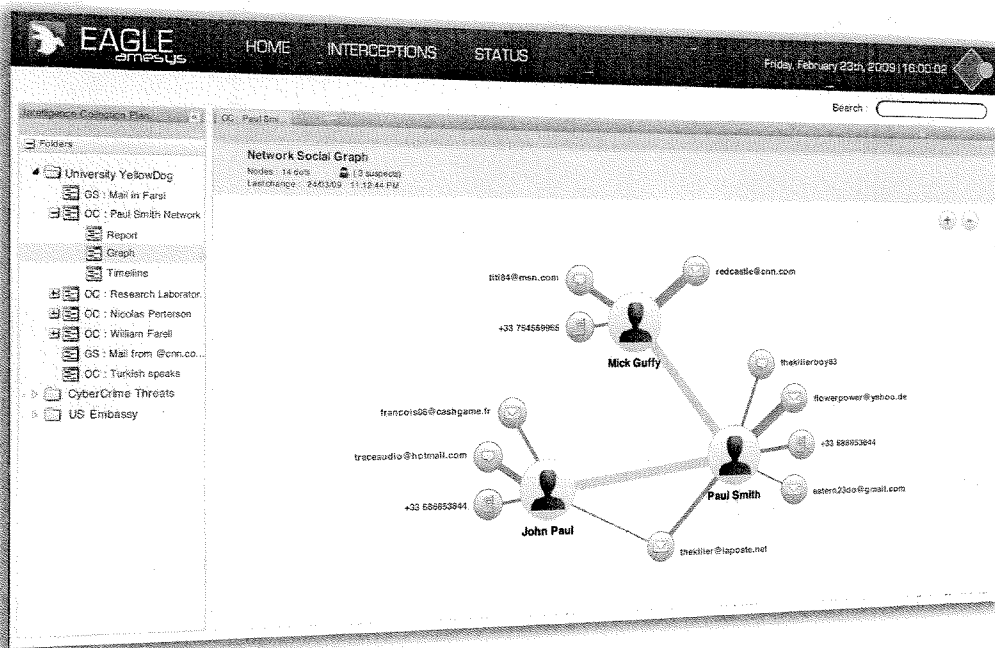

Once a folder has been processed, an automatically generated **graphical representation of the social network** can be displayed, helping the operators to establish the relationships between suspects. This representation allows the user to access the different interceptions by clicking on the graph's links.

This social network representation can be displayed in addition to a timeline representing **chronologically the communications between suspects.**
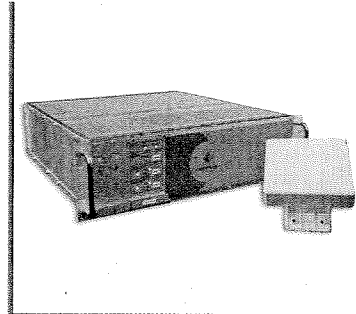
xHF family - H/V/UHF interceptor

- High performance VLF to UHF digital receivers
- Starting at 9KHz
- PMR
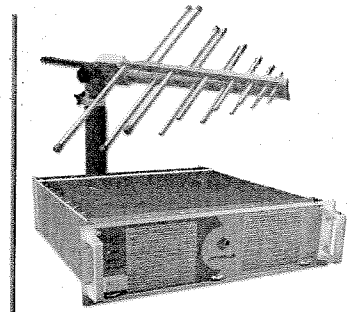
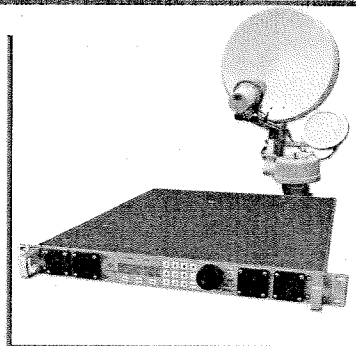## Road Runner - Mobile phone interceptor

- Fully passive GSM / 2G / 2,5G Interception
- A5.1 & A5.2 decryption
- 20 simultaneous recorded and listened channels (TCH / FR)

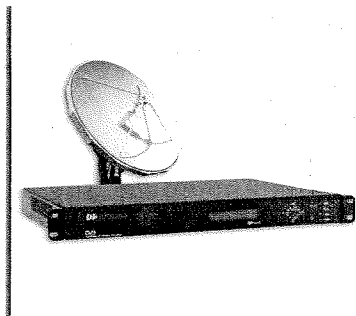## FRL family - Microwave Link interceptor

- Universal high data rate demultiplexer, demodulator and receiver (up to 40 GHz)
- Modulation BPSK, DBPSK, QPSK, DQPSK, 8-PSK, 8-DPSK, OQPSK, 16-QAM, 32-QAM, 64-QAM, 128-QAM, GMSK, 2-FSK
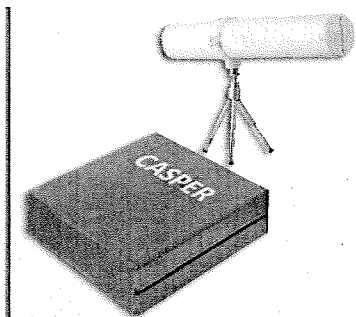
Dlx family - Satellite interceptor

- Full transponder Bridge
- DVB-S/DSNG/S2
- Easy to install & setup
- Thuraya, Inmarsat

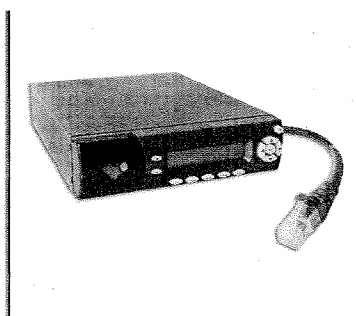## Casper - WiFi / WiMAX interceptor

- Fully passive WiFi Analysis
- Automatic WEP / WAP decryption (option)
- WiMAX Analysis

Dumbo - E-mail interceptor

- E-mails collection
- Cost effective solution
- Easy to install and to use

MINT / LION - Strategic interception

- Very high data rate nationwide interception system
- Compatible with all the range of captors
- Designed to aggregate all sources of information
- Storage Area Network (SAN) designed for archiving the traffic (from some terabytes to tens of petabytes)
- No technical skills required for the investigators
- All inputs can be time-stamped and digitally signed by the system to be used as legal evidence
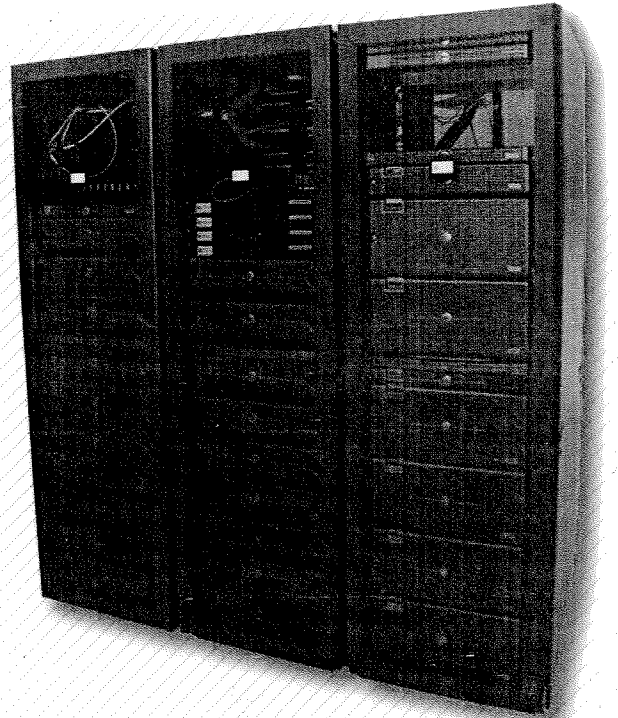
SMINT Mark II / SLION - Tactical Interception

- Tactical and field operational system
- Analyze in real time up to 6 E1 simultaneously, up to 50 Mbits of IP traffic
- Compatible with all the range of captors
- Replay network capture files (pcap files)
- Unified user Interface
- Embedded storage capacity

EXTENDED CAPABILITIES

GEOLOCATION & DIRECTION FINDING

Amesys provides also extended direction finding and geolocation features.

EAGLE core technology can handle direction finding for Radio communications on the field.

For strategic deployments, Amesys can also include the global geographical positioning of all the mobile handsets of a country with dedicated passive devices installed in the service provider network.
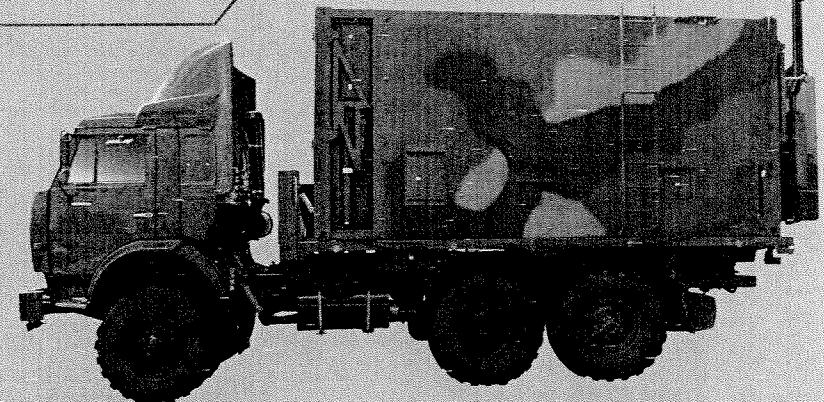
GLOBAL DATA BASE CONSOLIDATION

The Eagle Data Center is designed with an open architecture ready to be interconnected with other existing compatible data bases. This allows to improve intelligence by cross referencing information, knowledge and search.

Amesys provides services with very large data base experts to help customers in building and consolidating global intelligence.

DATA PROTECTION

To protect VIPs against such interception devices, Amesys has developed a range of product called CryptoWALL dedicated to encrypt and protect all types of communication. Thus, the sensitive communication will always be secured and remain unintelligible by any interception system.