



MCR TRACER

MCR TRACER has been developed by AREA to satisfy the upcoming need of LEAs to track targets movements by means of GPS and GPRS Systems. MCR Tracer full integration in the MCR Voice & Data Monitoring- Center enables LEA operators to leverage the power of an unified interface for all the information (Voice, Data, Positioning) related to the target.



GEOGRAPHICAL TRACKING OF TARGETS: A TACTICAL TOOL

The geographical localization of monitored targets is nowadays one of the most important tools in investigation activities.

AREA has developed in house a solution to pinpoint someone's position down to 10 meters using devices so small to fit in the palm of one hand. MCR Tracer is made up of:

- The Tracking Device (TD) providing localization data
- The Remote Control Management (RCM) which receives, manages, stores and displays geographical data and related targets information.

The TDs are installed on vehicles or others moving Objects, allowing Law Enforcement Agencies to acquire relevant data concerning vehicles movements: history and real-time monitoring, date and time of all movements, average speed, real-time localization on maps, etc.

1. MCR Player Interface (Area Monitoring Center)

The full integration of Tracer with MCR Voice & Data Monitoring Center provides the best performances and efficiency, allowing LEA operators to use the same MCR Player interface for all kinds of monitoring activities: fixed and mobile telephony and IP data interceptions, localization tracking services, live audio and video, etc.

2. MCR Tracer Anywhere (Web User-Interface)

By means of a specific Web-based application, it is possible to render on maps of the geographical data belonging to the targets from any IP-enabled device (incl. Smartphones / iPhone) and without a complete monitoring center infrastructure.

3. Integration with specific Customer applications

AREA may provide the consulting support for the full integration with existing systems. Tracer is therefore highly scalable and flexible.

LOCALISATION AND TRANSMISSION TECHNOLOGIES

Tracer is based on a combined use of the two main localization network protocols (GPS and GSM) in order to grant the highest performances and reliability:

- GPS system offers the fastest targets localization, higher precision and continuous update of date, time and other basic tracking parameters
- GSM cell-based localization is less precise, but can exploit much wider network coverage and the network signal is not affected by weather or environmental factors.

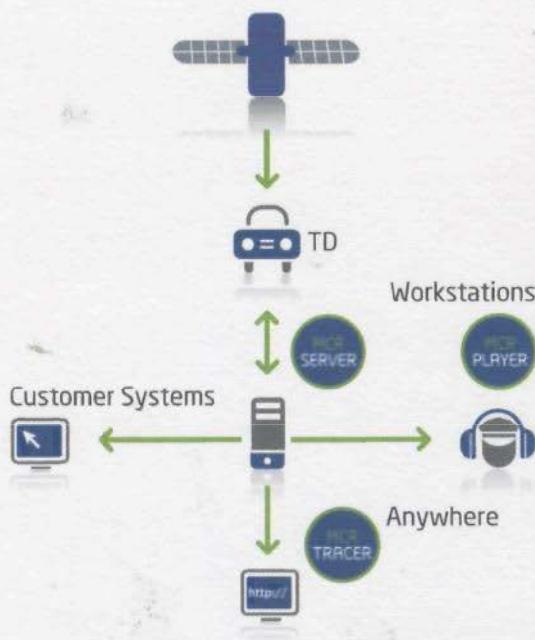
Two different transmission modes are supported:

- GPRS
- SMS

Localization data are transmitted by default via GPRS. In case of missing GPRS signal, data are sent via SMS.

To grant the best GSM coverage and system availability, two SIM cards from different operators can be installed on board.

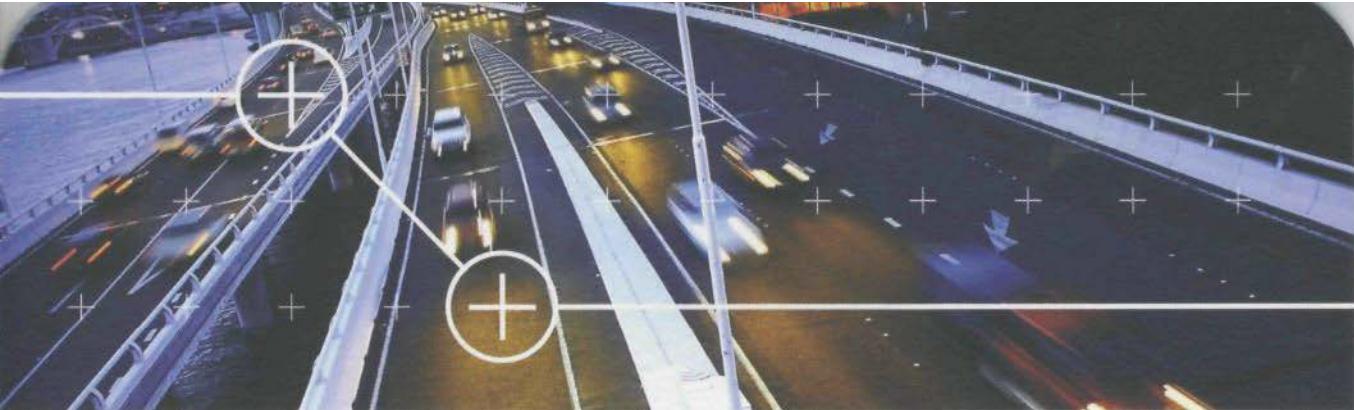
If both networks are unavailable, localization data are cached on the Tracer device and forwarded when the connection is re-established. Data are sent at configurable intervals.



TRACER ARCHITECTURE

The data captured by MCR Tracer are sent to a MCR System for centralized storage, registration and authentication.

The LEA operator can access these data using the following interfaces, even in parallel:



REMOTE CONTROL

Complete remote control of the device is possible via mobile phone, MCR Player or MCR Tracer Anywhere using SMS or GPRS connectivity.

Remote firmware upgrade and configuration, with a wide range of customizable parameters. Separated Admin & User access and rules.

HIGH RELIABILITY, AVAILABILITY AND SECURITY

Each device is tested singularly under stress conditions (mechanical, temperature).

- Double SIM
- Optimized management of autonomy thanks to enhanced Hibernation and Auto-Switch-On policies
- Power supplied by means of battery pack or car battery

High precision in geographical data rendering with Map and Guide software / - NavTech maps

map&guide
knowhow to go



MCR TRACER Anywhere

MCR Tracer Anywhere is a simple, complete and intuitive solution for managing target vehicles monitored through MCR Tracer. The system supports both the analysis of stored data and the live tracking of the moving targets.

THE 'ANYWHERE' APPROACH

Thanks to a dedicated web server within the MCR infrastructure, access to data collected by MCR Tracer is granted from any device connected to the Internet and equipped with a standard browser: PC/Notebook from the office, Smartphone/iPhone from the field or from a remote location, etc.

A Virtual Private Network guarantees maximum flexibility and data access without compromises in terms of security.

MAPS

The integration between MCR Tracer Anywhere and the world's leading vendors of digital maps (Google, Microsoft) allows users to visualize the position of their targets in many different ways, such as:

- Google Maps with "Maps" view
- Google Maps with "Satellite" view
- Google Maps 'Street view'

- Microsoft Virtual Earth
- Microsoft Virtual Earth with satellite views
- Microsoft Virtual Earth with aerial photography

TARGETS VISUALIZATION

The rendering of targets positions can be fully customized through different parameters and according to the most suitable investigation approach. For example, the operator can choose to visualize:

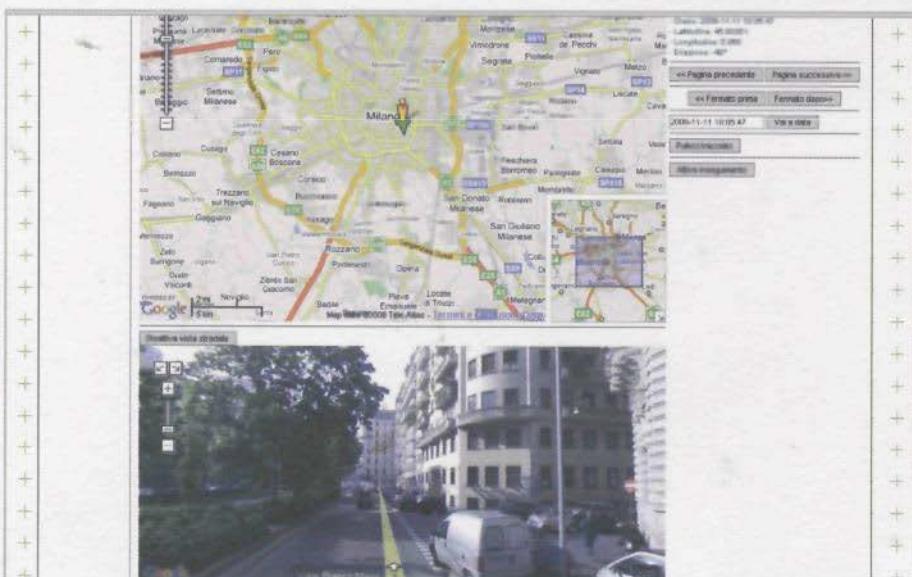
- Single, defined GPS positions
- Complete travels
- Time periods and related movements
- Journeys within selected points

LIVE CHASING AND USE OF MULTIPLE TARGETS

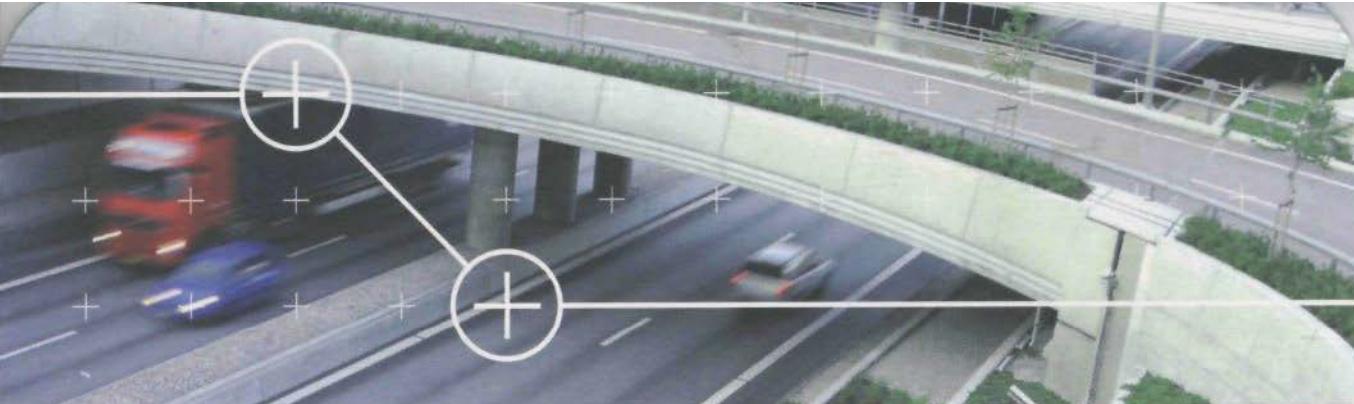
Chasing and pursuing targets is made easier thanks to the ability to track several targets at the same time.

Several available options allow operators to assign defined targets to dedicated visualization modes, according to investigators needs and operations scenarios.

Two maps can be open on the same screen, allowing the parallel view of separate targets. When targets are in the same geographical area, they will be shown on the same map, using different colors.



The great variety of possible visualizations guarantees the highest precision in pinpointing and monitoring the target movements.



CONFIGURATION

Thanks to MCR Tracer Anywhere, the tracking devices (Tracer) can be easily configured from remote.

Advanced features such as GSM users, alarm zones, real time chasing options, energy saving settings etc., can be activated or modified in a very easy and intuitive way.

DATA VISUALIZATION

MCR Tracer Anywhere data can be rendered in a large spectrum of configurable resolutions (from 400x100 dpi up to 1400x1000 dpi), allowing LEAs to adopt different media to visualize targets, from the smallest, portable PocketPC to the widest flat screen.

INTEGRATION

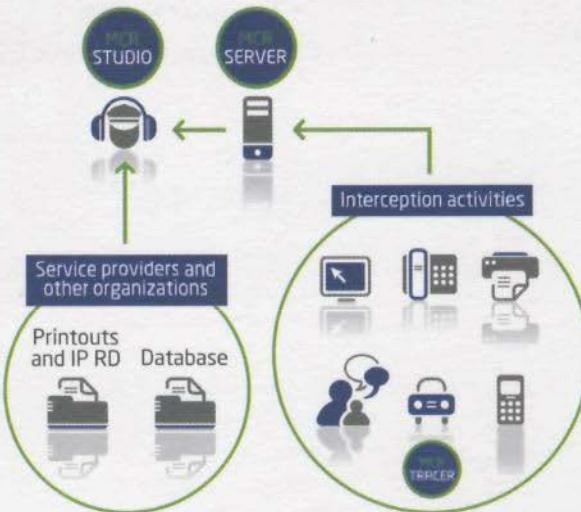
MCR Tracer is completely integrated in the MCR Monitoring Center.

Now, thanks to Tracer Anywhere, it can be used as a standalone solution for security activities.

When targets are in the same geographical area, they will be shown on the same map, using different colors.

MCR STUDIO

MCR STUDIO is the data-mining solution completely developed in-house by AREA that works in synergy with MCR System to provide LEAs with a State of the Art Monitoring Center for Lawful Interception activities.



MCR STUDIO is designed for LEAs needing a powerful tool to analyze and correlate data collected through:

- telephony and IP interception activities
- GPS/BTS localization of nomadic/mobile targets
- telephony and IP retained data from Telcos and ISPs
- third-parties database import (i.e. credit cards payments, toll payments, airlines tickets and boarding cards).

Besides the great capability to fit different investigation approaches, MCR Studio added value is the effectiveness in finding out both direct and indirect relationships among subjects, identifying behavioral models. MCR Studio is delivered either as a pure analysis system or, more often, integrated with turn-key Monitoring Centers.

The first option fits in scenarios where MCR Studio is used to analyze databases not continuously updated.

In the second case, LEAs greatly benefit from integration since analysis procedures can be repeated automatically and periodically. AREA data-mining solution is very modular and flexible, so MCR Studio installations range from a few PCs to several servers and workstations, according to the amount of data to be treated. Key factors for MCR Studio spreading among LEAs are its usable user-interface and its capability to treat huge amount of data without requiring footprint server farms.

MCR INTEGRATED MONITORING AND ANALYSIS TOOLS

Thanks to MCR Studio integration with AREA Monitoring Center, analysis can be performed

on current intercepted communications, including new calls, e-mails, VoIP calls, chats and IRIIs.

In so doing, users work always on updated information so that analysis results represent behaviors of suspects in real-time. LEAs benefit from convergence of rendering and analysis tools as users can start new analysis at any time while monitoring new intercepted sessions. Similarly, users can simply click output provided by MCR Studio to access and see communications linked to analysis results.

MCR Studio takes advantage from security and anti-tampering mechanisms implemented in AREA Monitoring Center. After Authentication, LEA users can only analyze data related to investigation activities they have been assigned.

WORKFLOW OF ANALYSIS PROCEDURES

MCR Studio has proved its effectiveness and quickness in analyzing huge amount of data. MCR Studio enables LEAs to carry out complete analysis activities simply by following pre-configured processes.

Main steps are:

- import printouts and IP data provided by Telcos, or coming from third-party database;
- verify database consistence and eliminate not relevant data;
- apply any of the pre-configured analysis models or create new ones;
- select the most suitable graphical layout to render the analysis results;
- save the data resulting from analysis procedures, together with their graphical output.

MCR Studio comes with an advanced and very user-friendly GUI.

Thanks to this key feature, even complex inquiries can be represented as flow charts. Results are displayed as grids, matrixes and relational graphs. Moreover, it is possible to check partial results of each analysis step and optimize standard analysis models.



DATABASE PREPARATION

Users rely on many wizards to import files in different formats and from third-party databases. MCR Studio supports TXT, Microsoft Excel®, Microsoft Word®, Adobe® PDF, XML. As far as database format is concerned, MCR Studio handles Microsoft SQL Server®, PostgreSQL, OleDB sources (es. Microsoft Access®), Odbc sources.

READY-TO-USE ANALYSIS MODELS

MCR Studio provides several ways to describe entities on which analysis models apply, such as investigated subjects details, including owned SIMs and other electronic identities (for example E-mail addresses and SIP URI). Users can select among many ready-to-use analysis models, depending on investigation cases (for example, frequency of communication among subjects and identification of direct and indirect relations for organized crime). Besides taking advantage of established analysis methods, advanced users can create enhanced models by composing several filtering and correlation operations. New procedures can be saved and shared among users of the same work-group.

EXAMPLES OF ANALYSIS PROCEDURES

Some examples of meaningful analysis models that can be carried out by following ready to use templates are:

- search for specific contents among thousands of intercepted sessions and IRIIs (i.e. key-word among e-mails, phone numbers among IRIIs);
- analyze and correlate printouts related to different BTSSs, to point out movements of suspects while using mobile phones;
- find out relationships among suspects by merging and correlating IRIIs and printouts to obtain a graphical representation of connections;
- identify "chained events" and recurring behaviors by investigating on crimes (i.e. sequence of calls among suspects linked to hierarchy in a group);
- represent on cartography the subjects communications whenever geographical

data are available (i.e. display on maps the position of BTSSs covering places in which suspects are making calls);

- put together movements of subjects by analyzing credit card payments and boarding cards of airlines.

As Internet communication services are increasingly used to exchange sensitive information, AREA continuously includes analysis models by leveraging specific features of IP services.

OUTPUT OF ANALYSIS

In order to make the results of analysis procedures immediately understandable, MCR Studio supports many graphical output layouts. The most used ones are:

- matrix, to represent the frequency of contact among a group of subjects
- bar charts, to count how many times a certain interesting condition or event applies
- Gantt charts, to display timeline of events or communications involving subjects
- graphical charts, to display relationships among subjects together with the way used to communicate and the number of contacts
- maps, displaying places where subjects are located when communicate with others.

MCR Studio enables the export and archiving of databases obtained by applying any analysis method.

In so doing, LEAs can consolidate investigation milestones and evidences. Moreover, MCR Studio exports the graphical representation of any analysis result using file formats supported by Microsoft Office® Suite.

SUPPLY OF MCR STUDIO AND PROFESSIONAL SERVICES

AREA Training and Consulting team provides LEAs with professional services at different levels, to assist users after system delivery and allow them to achieve maximum results from MCR Studio.

MCR CAPTOR

Given the increasing use of Internet, LEAs need a Monitoring Center capable to effectively carry out IP interceptions, which nowadays represent a strategic tool to provide a real added value to investigation activities.

AREA has developed the **MCR CAPTOR** family of probes to support LEAs in their LI (Lawful Interception) activities requiring IP data acquisition; MCR Captor probes are totally integrated in the MCR Voice & Data Monitoring Center.



MCR Captor IP Probes installed in an ISP network allow to:

- acquire IP streams up to 10 Gbps
- apply real time filtering rules to extract specified IP sessions
- forward captured content to MCR Server

MCR CAPTOR INTEGRATION

MCR Captor family of probes is fully integrated with other MCR Voice and Data Monitoring Center components, providing complete Communication monitoring and analysis functionalities.

Probes Management

Centralized installation provides GUI interface to manage the whole system of MCR Captor probes deployed in the network, configure Targets, and monitor health status.

Content Inspection and Analysis

MCR Player provides extensive functionalities to access CC and CDR of intercepted targets, being them IP or Voice, offering advanced features for decoding, presenting and filtering of data. MCR Studio is the data-mining tools to analyze target's social relationships and build personalized analysis patterns.

Centralized Storage

MCR Server provides storage, security and anti-tampering signature on recorded data, accordingly to specific country legislation requirements

MCR CAPTOR TARGET DEFINITION

MCR Captor enables LEAs to use different approaches to IP data interception.

Investigation Approach

This approach is usually based on the monitoring of well known targets, previously identified by means of investigation, in order to collect evidences, discover social relationships and find hints to create other targets.

The triggering rule can be an IP address, a Radius Login ID, an e-mail address, a chat or a VoIP ID or telephone number, etc.

Intelligence Approach

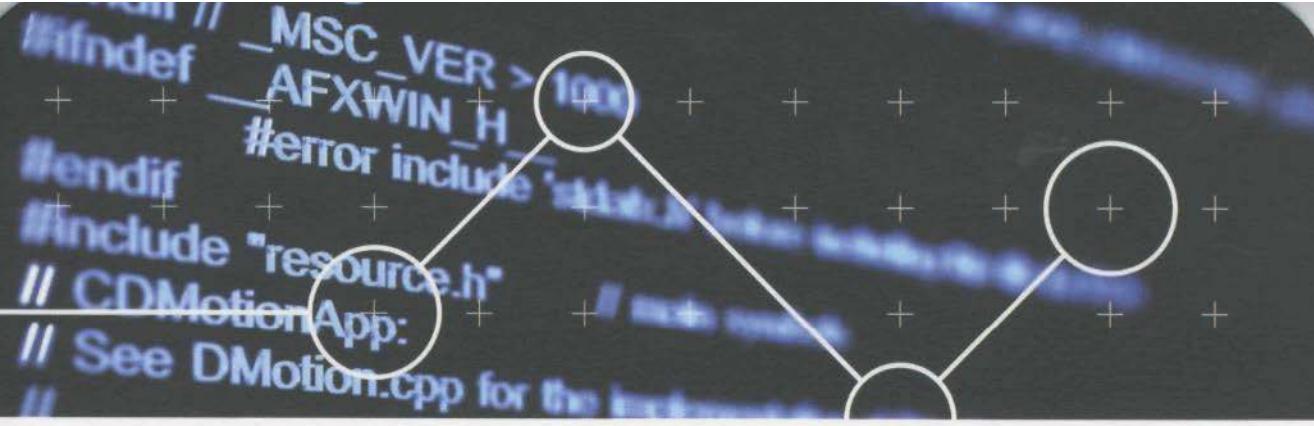
This approach is usually based on the monitoring of communication content of targets that are not identified yet. This kind of interception applies in Crime Prevention and Homeland Security, as it is useful both to discover suspect behaviors and to identify the subjects they belong to, by means of content monitoring.

The target can be email subject, chat content, generic word spotting in complete stream, type of communication protocol, etc..

Trigger Table

This table presents a summary describing the most common target definition of MCR Captor

TYPE OF TARGET	TARGET DEFINED BY
Target oriented	IP address / Radius ID / E-mail address / Chat ID / VoIP ID / Telephone number / URL / DNS Queries / ... /
Content Oriented	Email (Subject and body) / Webmail (Subject and body) / Instant Messaging / Social Network Chat / Web Pages / Generic Word Spotting in full stream / /
Communication Type Oriented (Identification of protocols)	Mail / Webmail / HTTP / VoIP / Chat / Communication Port / Encrypted Protocols (Skype, HTTPS...) / Peer 2 Peer / ... /



MCR CAPTOR APPLICATION SCENARIOS

Example 1: Pirate Web Site

An example is the monitoring of a pirate web site traffic. LEAs requirement was to trace every access to a pirate website, and collect all the traffic generated by those users, to discriminate relevant targets from occasional visitors.

The constraint in this process is the capability to automatically target the web site which was not always on-line and whose IP address was dynamic.

Establishing a trigger monitoring DNS traffic allowed to identify those IP addresses accessing the specific web site; those IP Addresses were addressed as targets, from that point on, capturing entire traffic generated, allowing LEAs to identify relevant users, and obtain their ID (email, chat...)

Example 2: Word Spotting (protocol based)

MCR Captor can process a whole aggregated IP stream and extract the contents (such as HTTP pages or e-mails) in which specified words are detected. Moreover, in order to focus on specific communications channel, the combination of more triggers is extremely important. In this experience LEAs, needed to search specific words, but to limit false positive matches, traffic analyzed was restricted to Instant Messaging, Webmail and Mail protocols.

INTEROPERABILITY, STANDARD AND INTEGRATION INTO TARGET NETWORKS

MCR Captor enables LEAs to monitor IP contents through any kind of fixed and mobile data networks: dial-up, xDSL or fiber (fixed networks), and WLAN, GPRS, EDGE or UMTS (mobile networks). MCR Captor probes are configured to fit the network technology adopted by Telco operators (i.e. GB Ethernet, STM, PoS) and can capture high bit rate IP streams (up to 10 Gbps) through SPAN ports or by means of tapping devices.

AREA monitoring system is compliant to emerging LI standards such as ETSI (TS 101 671, TS 102 232) and CALEA, yet MCR Captor is widely adaptable to fit Vendor-specific or Country-specific interception scenarios.

FLEXIBILITY AND SCALABILITY

MCR Captor can be easily adapted to all the changes that can occur in number of monitored targets, protocols and ISP network modifications.

MCR Captor can support interception activities carried out simultaneously by different LEAs thanks to the capability to manage a huge number of concurrent interception instances.

MCR CAPTOR MAIN FEATURES

System reliability

MCR adopts an advanced automatic backup policy and a RAID 5 mechanism is configured on probes to avoid data loss. Moreover the handover capability is redounded in order to avoid that a single fault can affect the whole system recording capacity.

Security

MCR Captor is configured to be protected from any virus threats, malware in general and hackers attacks.

On probes, servers and workstations a top-level anti-virus software is installed and a firewall infrastructure is properly configured according to the latest policies issued by authoritative IT security companies and communities.



MCR VISIO

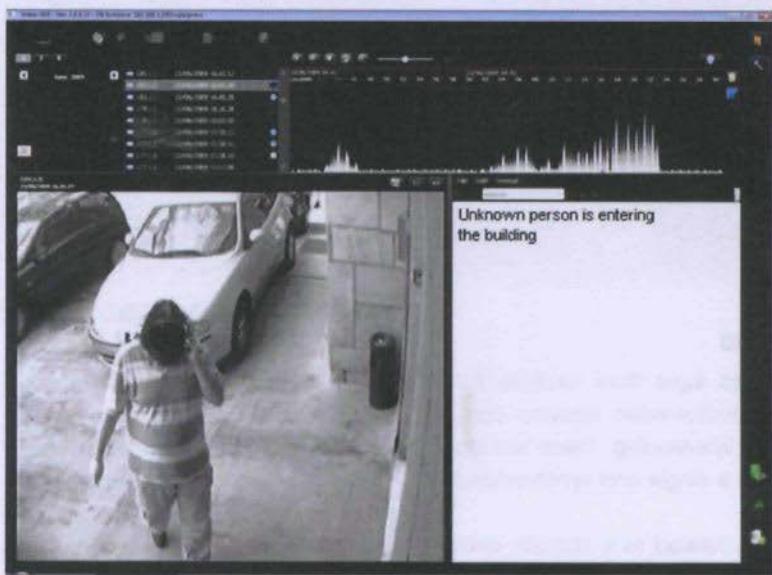
MCR VISIO is AREA's new digital recording and interactive management platform for video interception.

The solution has been specifically designed and developed for LEAs and includes typical interception-related features such as:

- Powerful tools for the management of transcriptions and comments about the recorded events, while preserving the original without any manipulation (digital signature)
- Printouts of the intercepted/recorded events
- Report generator for easy creation of investigation-related info summary, customizable with templates
- Friendly user interface hides a powerful sw engine
- Multi-lingual support

MCR VISIO client-server architecture enables the handling of multiple activities, collecting inputs from several sources, in a single centralized infrastructure, with evident economic and organizational advantages. It can be adapted to a wide range of analog and digital cameras and supports real-time video target streaming along with analysis of stored files.

The large selection of recording methods and options allows the operator to customize video shots in order to adapt the interception to specific needs and application scenarios.



Real-time

Monitoring of all active video cameras gives the operator a complete view of all monitored locations. Cameras can be managed according to the operator's needs: they can be zoomed in or out; they can be tilted and panned (PTZ control).

MCR VISIO already integrates control protocols for AXIS and PANASONIC cameras. Customization for use with specific cameras can be arranged for specific projects.

Recorded Video files

Operators can retrieve and manage at any time stored video files. The choice of start time for playback can be easily made: the *timeline* (with zoom-in functions, to allow higher granularity) included in every recorded video and the *bookmark* feature, give operators the freedom to browse among time intervals and to play, store or export parts of a selected video.

Recording time can be planned in advance, by telling MCR VISIO the daily schedule of an interception activity, for each camera currently connected to the system.

Recording mode can be defined: i.e. Continuous recording, Recording upon movement, etc.

Video recordings are particularly helpful when combined with MCR VISIO *multiview* feature, for cross analysis of multiple recordings.

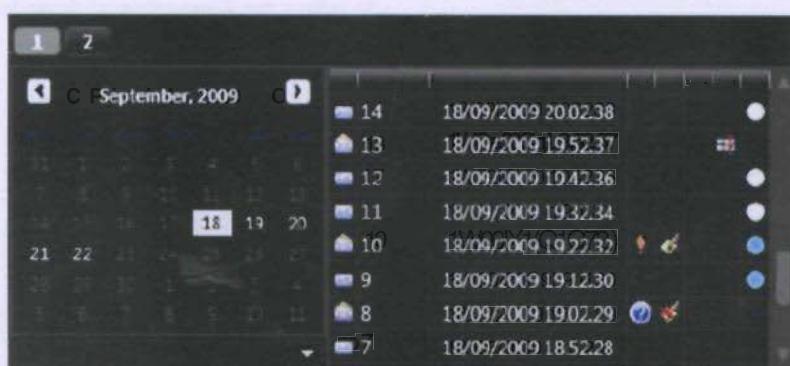
MCR VISIO offers many innovative and unique features, including:

MULTIVIEW

MCR VISIO manages efficiently different multi camera modes. Operators can view one single camera window, or multiple cameras. When more than one camera window is present, the operator is allowed to configure windows layout and priority, for both real-time playback and saved video recordings. Each video window is actually a tab which can be detached from the main window and moved onto other monitors, if available (i.e. real-time playback of an investigation on a screen, and transcription of a report on video frames of another investigation, on the second screen).

CONTENT SEARCH

With the search feature, operators can look for a specific content among MCR VISIO's recordings, by applying filter criteria, including search for date, time, relevance, bookmark or transcription.



INTEGRATED LIVE AUDIO

MCR Visio also accepts input from multiple Audio sources and specific audio+video streams can be merged together, i.e. for lips-reading. These two inputs can then be exported in a single and synchronized A/V output file.

Time-based bookmarks (related to a specific events) can be associated with multiple audio+video tracks. Operators can write notes and comments for any single (audio OR video) source.

DATA MANAGEMENT

MCR VISIO comes with a suite of tools to manage data, which are mainly images and videos.

- Screenshots of the current video(s) can be saved into the clipboard.
- AVI export of entire videos, fractions of videos and time spans that can include multiple videos.
- Monitor management, to set format (4:3 or 16:9) or to split screen for advanced visualization

ADVANCED MOTION DETECTION

MCR VISIO offers an advanced recording mode, based on the definition of *active areas* on the screen, with inclusion/exclusion zones. The operator can select areas of interest where MCR VISIO will focus its motion detection engine, with user-defined motion thresholds to start recording. These *active areas* also can benefit from an automatic zoom in case motion is detected.

Recordings made with *active areas*, share the same modes (i.e. *Continuous recording*, *Recording upon movement*, etc.) as other recordings.

MULTIMEDIA CLIENT-SERVER MODE

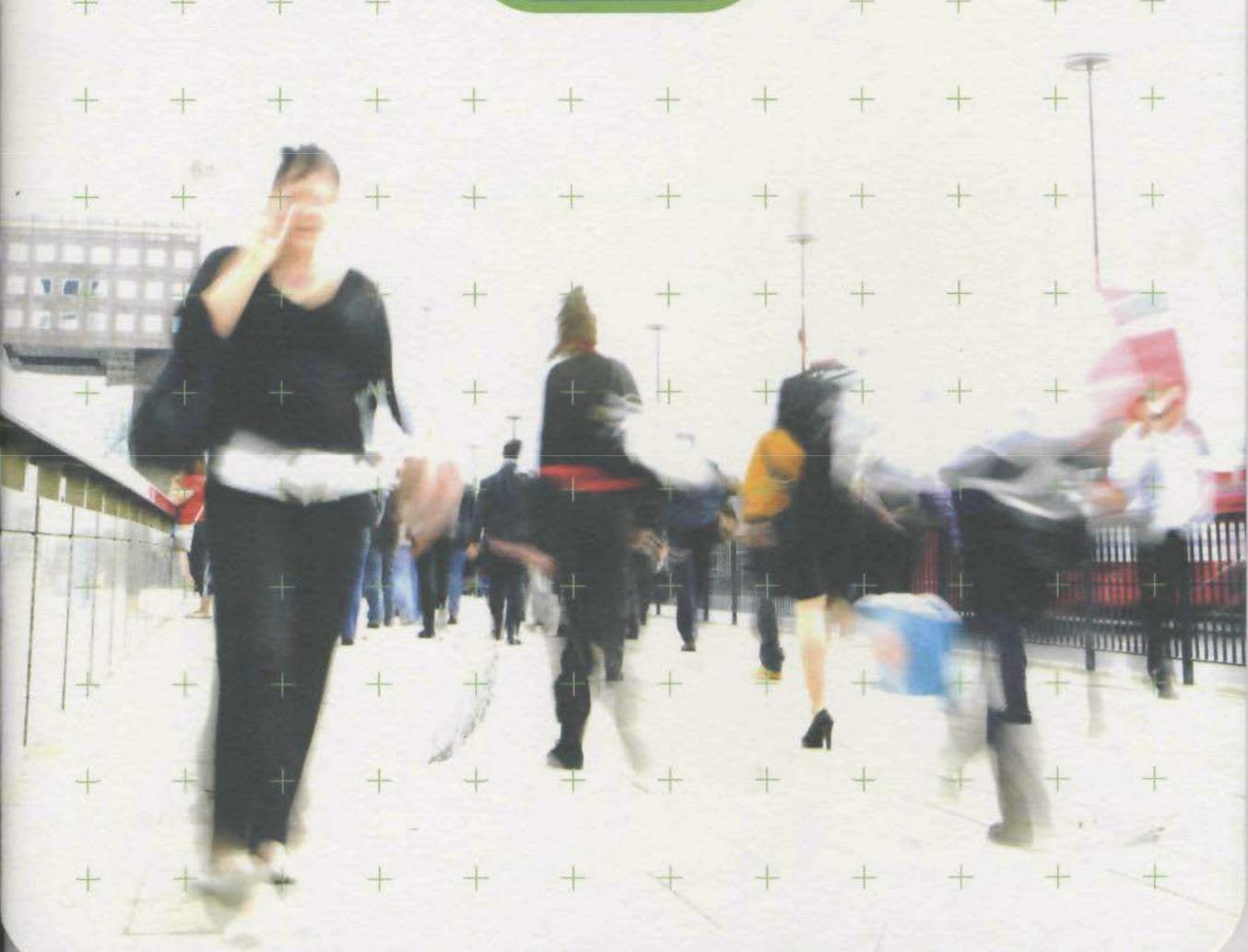
MCR VISIO infrastructure was designed to consider different bandwidth availabilities. When contents are stored remotely and operators need network connections to access them, Visio's client-server architecture can detect the network's throughput and modify its access speed to allow operators to get the best quality videos that the network can guarantee. This feature doesn't affect stored videos, that won't change their real quality: only the network transmitted contents will adapt to the line conditions.

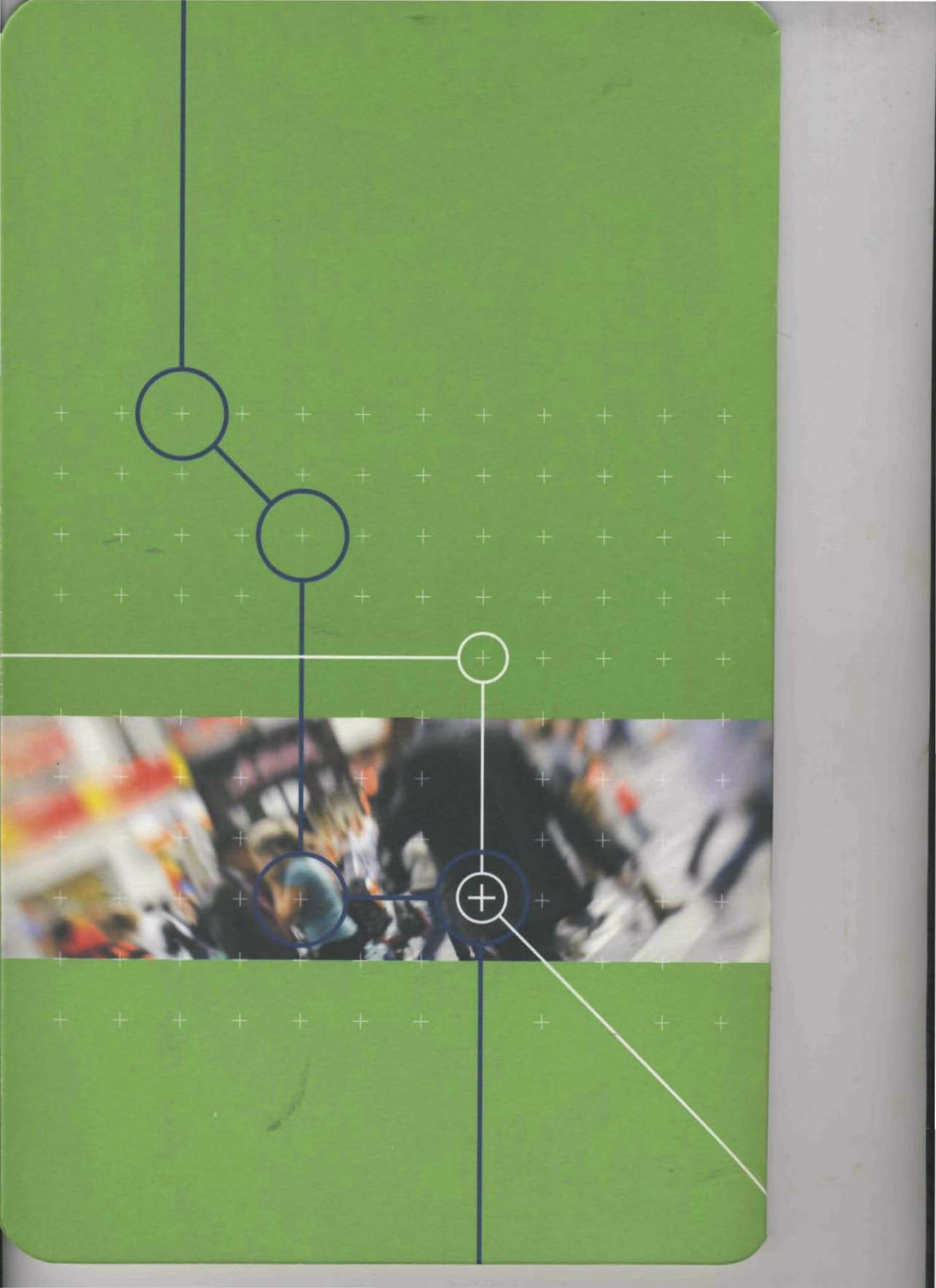
SECURITY

All files recorded by MCR Visio are signed with a digital key in order to avoid any manipulation. The software license can be loaded from a USB token. Fine-granular access rights for users and system administrators and complete log of all events and activities.

AREA

www.area.it





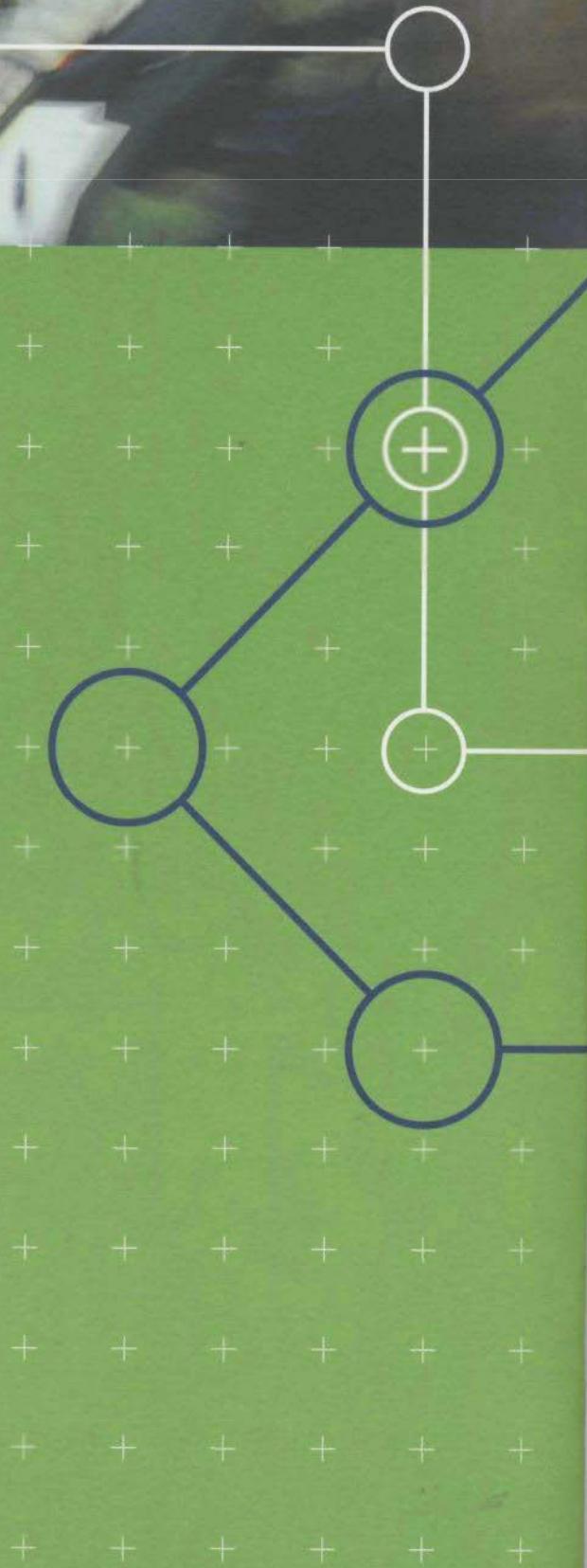
"Our mission is to ensure the highest quality of service to customers, to behave in an ethically proper manner and to create well-being for all those who interact with AREA. Constant application of these values has allowed us to achieve an undisputed leadership position. Our success demonstrates that we have one of the most complete solutions on the market to handle the entire intelligence process related to Lawful Interception activities".

Andrea Formenti
Davide Perteghella



A photograph showing a person's hands and arms as they work at a desk. They are surrounded by papers, a computer monitor, and other office equipment. A white line connects this image to the text below.

Investigative work requires
increasingly fast and
effective solutions
to support LI activities

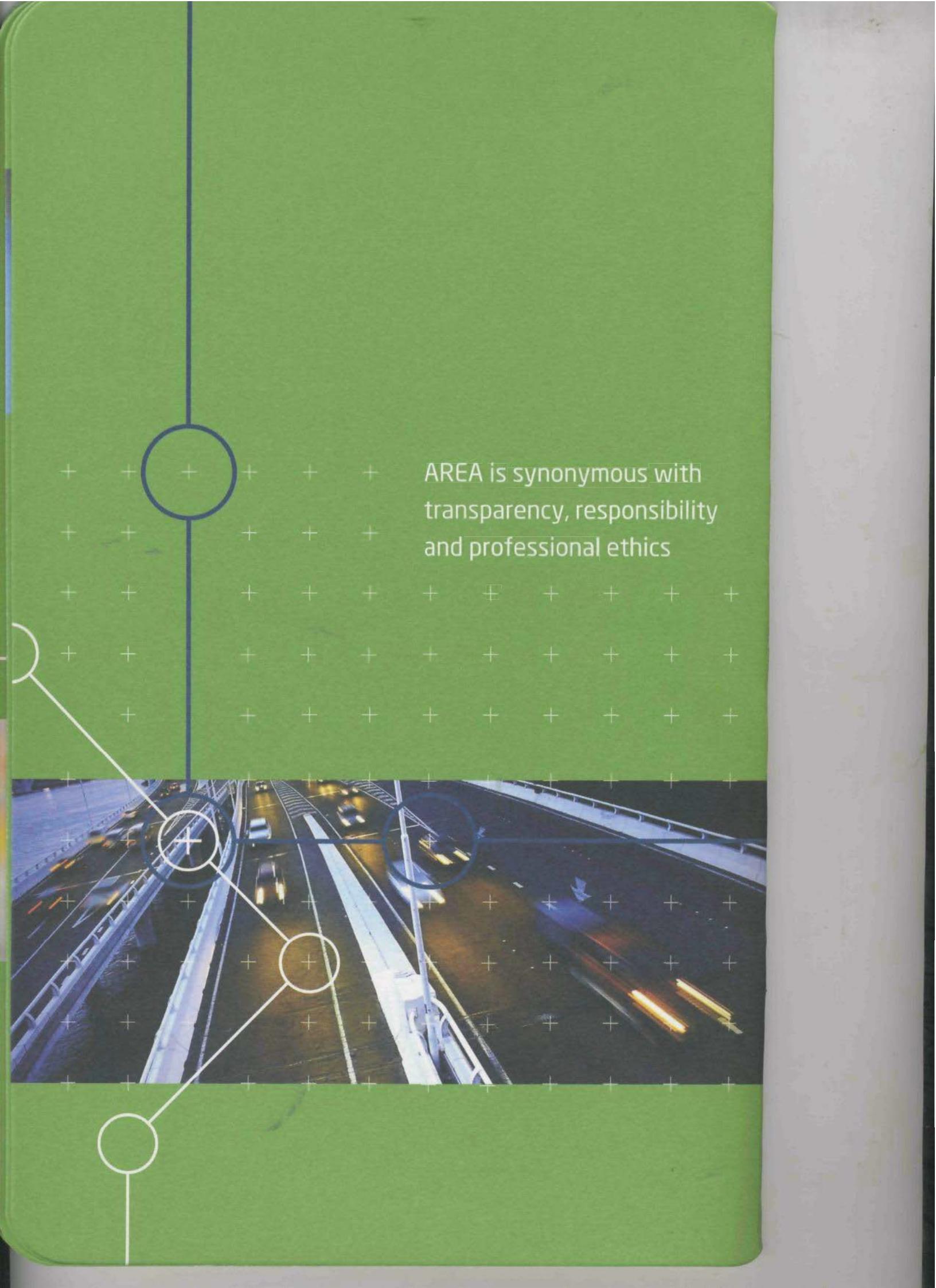


Intelligence

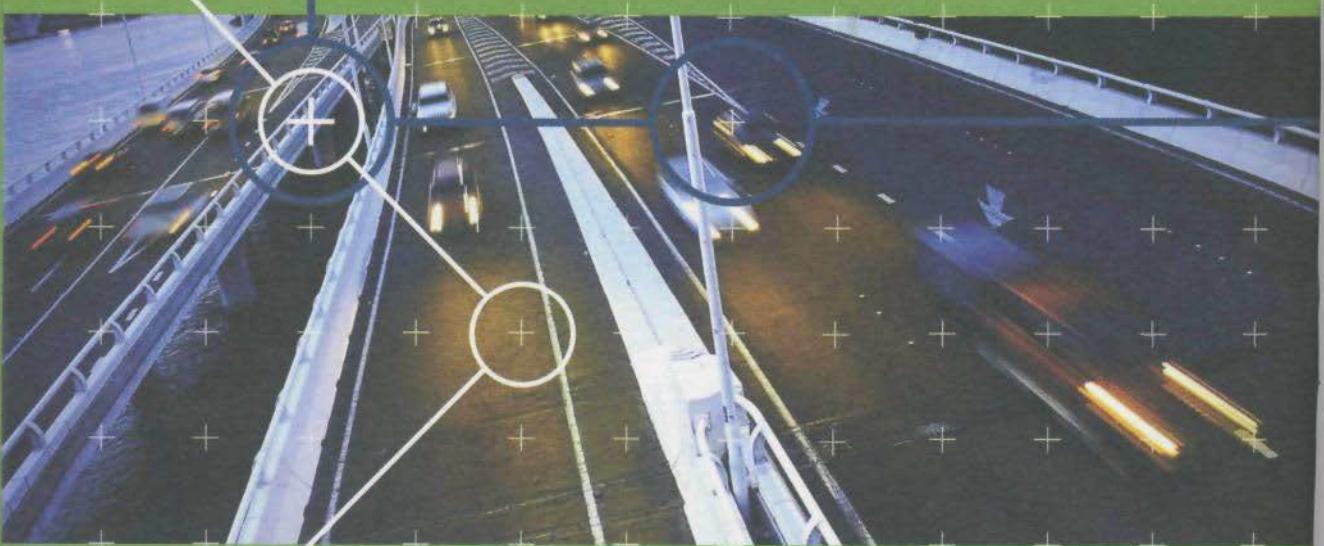
Investigative work is increasingly becoming intelligence work. Lawful Interception (LI) is a key element of this and consists of acquiring information from every transmission source by governmental agencies, in full respect of the laws in force and with the necessary authorisations. It is an extremely complex and delicate process, called upon to meet the new challenges introduced by the growing technological complexity of telecommunication systems and the need to guarantee the utmost protection and respect of privacy, while simultaneously offering concrete support in the analysis of data and information.

AREA has always invested in the development of technological LI solutions to satisfy the high qualitative standards in demand, working in a responsible and reliable manner and without impacting the voice, data and video transmission service provided to other users. Furthermore, AREA has developed advanced solutions for management, analysis and distribution of the information acquired: a complete platform of intelligence to transform raw data into strategic knowledge.





AREA is synonymous with
transparency, responsibility
and professional ethics



Value +

The real commitment of a company is measured also by its capability to ensure high ethical standards in its dealings with market and customers.

Standards that AREA has always promoted and which now translate into a code of self-regulation, as a guarantee of service and assistance with a responsible, transparent approach to provide each customer the most suitable solution and satisfy the most challenging LI requirements.

From 1996 until today, AREA has constantly pursued the objectives of cutting edge technology and qualitative excellence in the LI sector. As the first operator in Italy to introduce a multi-channel audio digital recording system based on standard market components and featuring total accessibility through IP networks, the company is now the national leader in this sector, with over 300 installations of its MCR System around the world.

The solution is developed entirely in AREA labs, which are sustained by the investment of over 90% of profits and an R&D staff that, together with the technical assistance personnel, represents 80% of total human resources.

Collaboration with research centres and universities, investments in development and promotion of talents are the winning elements that make AREA the leader in this sector in Italy and a key player on international markets.

Total focus on the LI sector and on a specific type of customer - Lawful Enforcement Agencies (LEA) - provides AREA with in-depth knowledge about the demanding requirements of the market regarding security, speed, effectiveness and technical support.



The MCR System integrates all LI activities into a single platform



Integration

The MCR System offers a single integrated platform to capture and analyse data coming from any transmission source and to obtain a comprehensive overview providing added value to investigative work. With its high scalability and customisation, MCR is able to transform any installation into a unique and valuable project. AREA is committed to rapidly implementing the solution and ensuring that all authorised persons can benefit from the advantages provided by the new system. The products comprising the MCR System allow AREA to fully cover the five main functional areas of the LI sector:

CAPTURE

Data acquisition from networks and unconventional sources

RECORDING

Collection, reception and structured archiving of acquired data

REPRODUCTION

Data decoding, visualisation and access by authorised operators

ANALYSIS

Data processing and identification of significant correlations among subjects

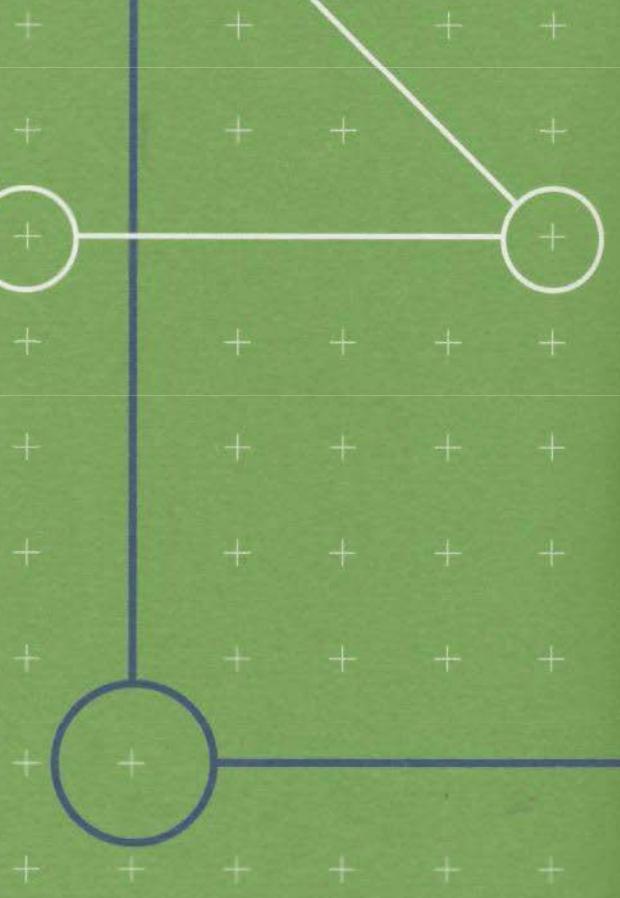
MANAGEMENT

Administration of authorisation procedures and documents relative to the monitoring services

In each of the steps described above, which represent the typical process flow of a telecommunication monitoring system, the results are presented to the user via simple and highly customisable interfaces, as well as through reports and diagrams.



MCR System satisfies all
operational and strategic
requirements of LI activities



Technology

The MCR System includes a set of components designed to fulfil all the potential LI needs:

MCR VOICE AND DATA MONITORING CENTER

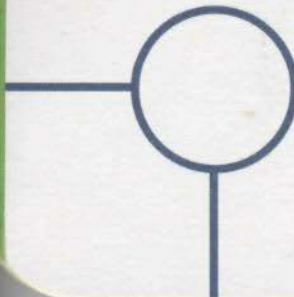
which includes:

- **MCR Server**, for the management of information about recording, decoding, indexation, storage, authentication and management of all data
- **MCR Player**, for the reproduction of data acquired in any format and from any transmission source
- **MCR Studio**, for the comparative analysis and processing of information, in order to identify correlations and behaviour patterns
- **MCR Office**, for the management of all LI-related administrative procedures and documents, such as authorisations, activities planning and cost analysis

MCR CAPTOR - devices to capture IP traffic on public networks

MCR TRACER - for geographic monitoring of moving targets through GPS localisation systems and to tap conversations among parties

MCR solutions are implemented through a solid networking architecture, to allow the maximum operation efficiency and security. Thus, information flows may be monitored on a global scale, maximising LI times, avoiding loss of information and never endangering the safety of the whole process.





AREA pays special attention to data security and confidentiality

+

Security

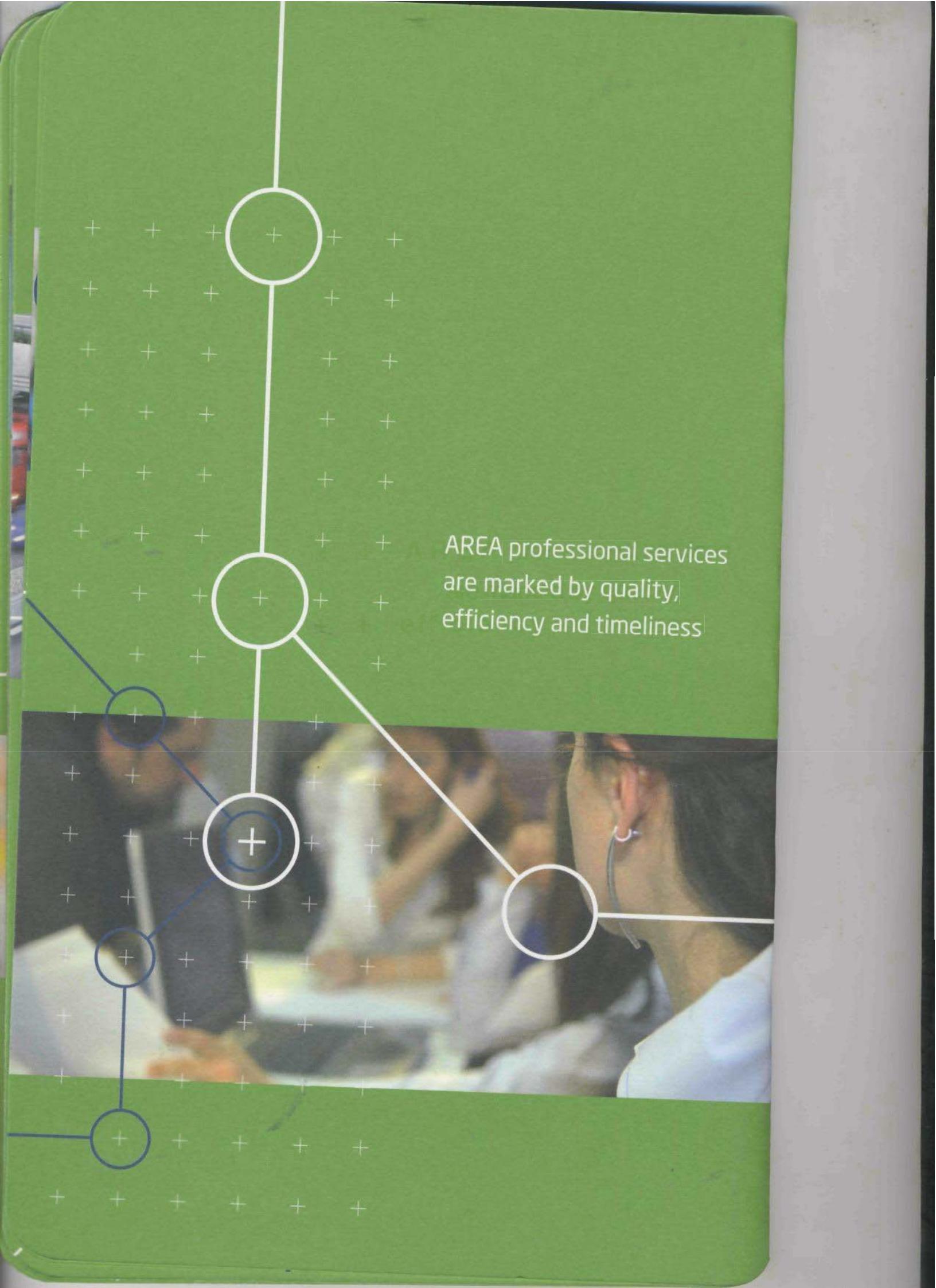
One of the main requirements customers ask for is the most scrupulous confidentiality concerning operations carried out, technologies adopted, systems implemented, data captured and analysed, individuals involved in LI actions.

In fact, AREA pays a great attention to the topic issues of security and confidentiality. Entrance to the workplaces is regulated and monitored by a control and identification system and access to confidential data is handled with extreme care through security procedures.

All communications within the company and with external parties are conveyed by protected channels and all digital communications are encrypted.

Sensitive information exchanged with customers is managed through a private and secure electronic mail account.

All AREA customers know they can count on sound and rigorous professional ethics, which go beyond corporate responsibility, based on reliability in partnerships and confidentiality in relationships, alongside being supported by procedures and tools aimed at the protection of data and information.



The background of the advertisement features a photograph of a person's hands wearing a white lab coat, focused on typing on a laptop keyboard. Overlaid on this image is a network diagram consisting of several nodes (circles) connected by lines. Some nodes contain a white plus sign (+), while others are blue-outlined circles. A large grid of small white plus signs is also visible in the background.

AREA professional services
are marked by quality,
efficiency and timeliness

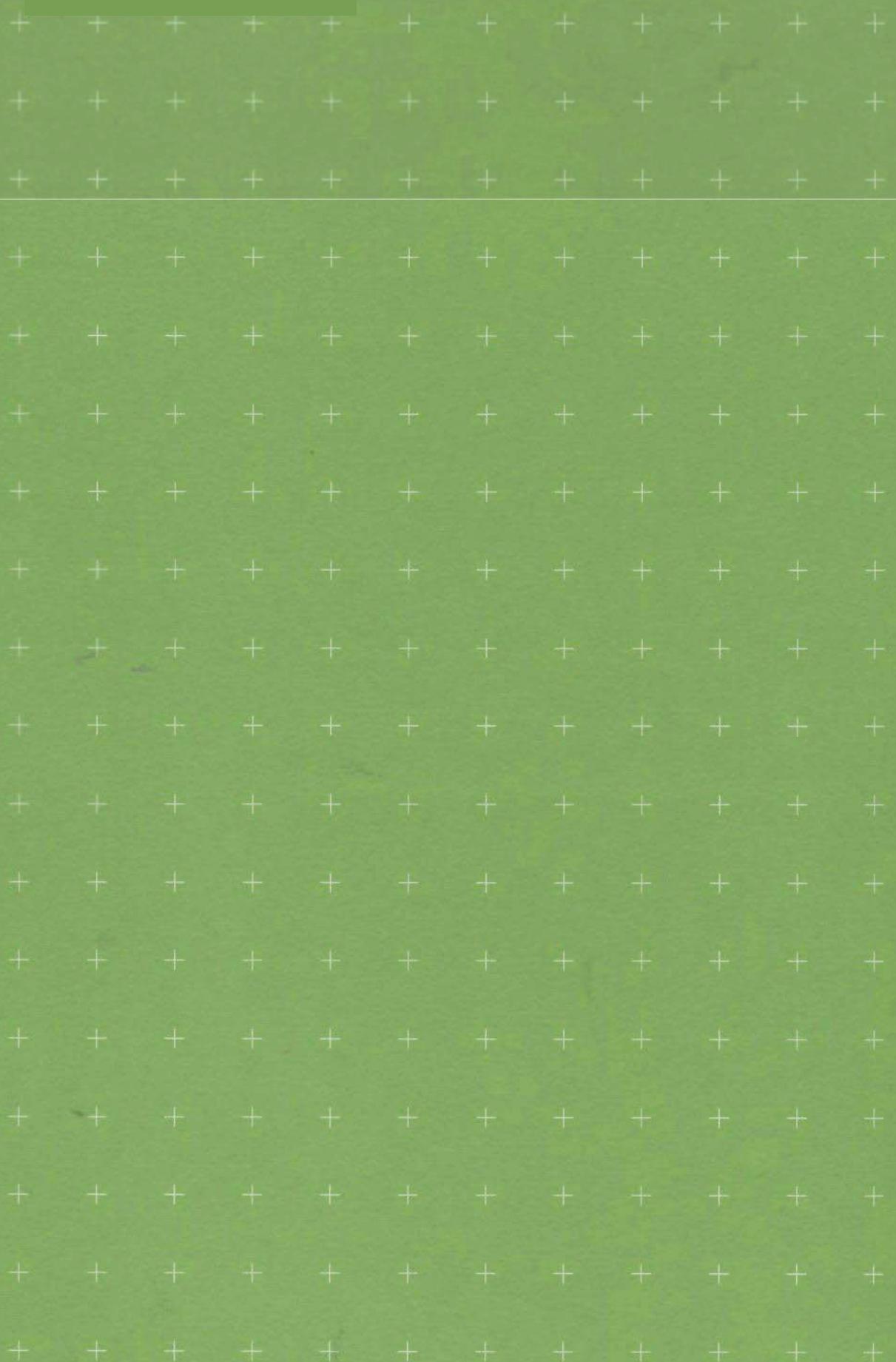
Reliability

In a particular sector like LI, it is essential to rely on a partner able to handle the entire set of operations and activities linked to wiretapping, providing all the know-how acquired through years of experience aimed at the creation of a technologically-advanced platform.

AREA can provide the highest quality of service, reflecting its constant commitment in the development of technological solutions and innovation: turn-key projects, systems integration, 24 x 7 assistance, worldwide on-site assistance, custom development, training, dedicated support teams, programs for the protection of investments in technology and long-term maintenance contracts.

The quality of technical support is guaranteed by the fact that all of the solutions are developed internally without outsourcing to third parties, thereby ensuring maximum service level and shortest response times.

Furthermore, ISO 9001 Quality Certification guarantees the validity of the internal production and service processes, while membership in the ETSI (European Telecommunication Standard Institute) demonstrates the quality level of products and services developed by AREA.



Graphic design: AlteaDesign - Milan
Printed on Freelite Vellum White paper by Cartiere Fedrigoni,
obtained with a furnish of 80% of selected recycled preconsumer fibre.
15% chlorine free pulp and 5% of very pure cotton fibres

MCR VOICE & DATA MONITORING CENTER



MCR SERVER and **MCR PLAYER** are part of the Monitoring Center developed by AREA, to support LEAs investigations through Lawful Interception of telecommunication contents, live audio and BTS/GPS positioning.

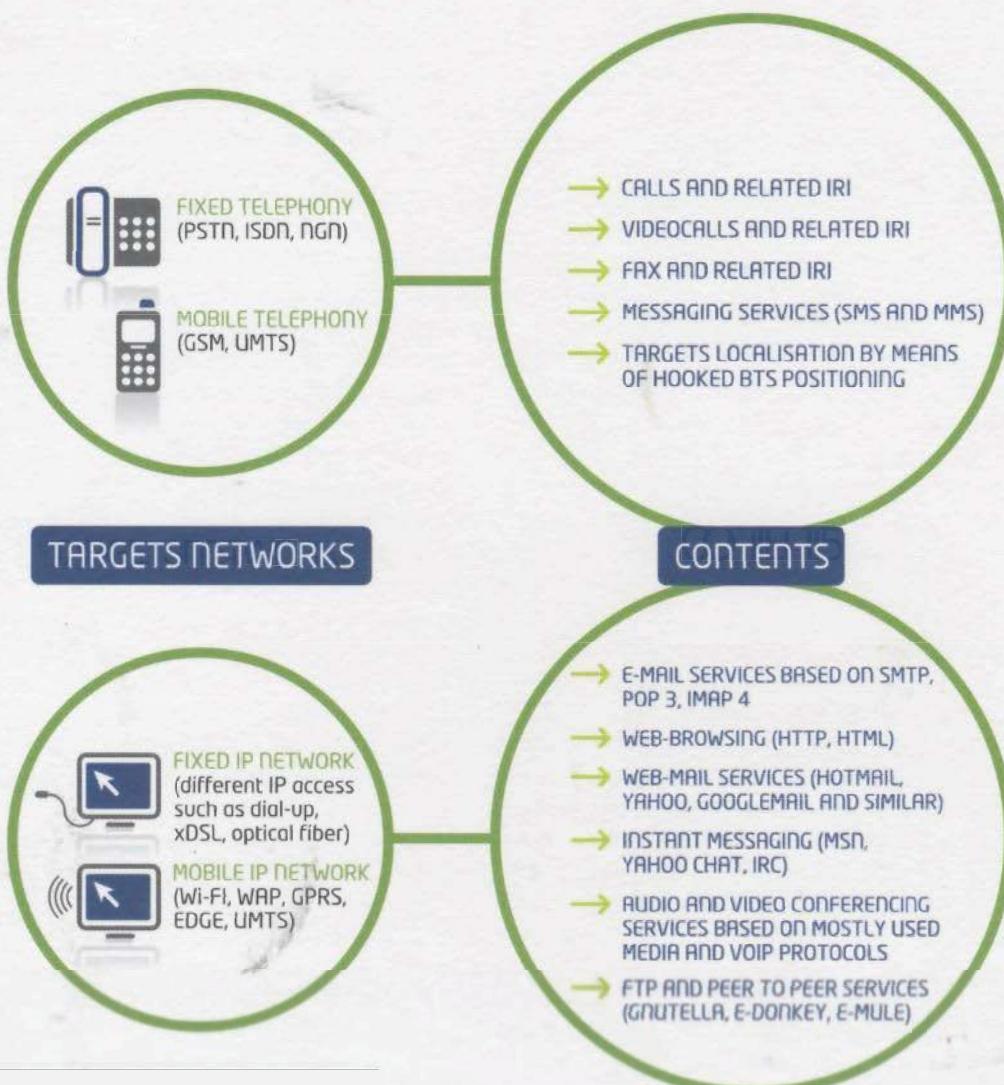
ARCHITECTURE

MCR system is a cloud of two types of components, connected via local or geographical networks (LAN/WAN) in a multiple client-server/3tiers/P2P architecture:

1. **MCR Server**, the recording unit aimed to acquire, record and store telecommunication and IP data exchanged by a large number of targets
2. **MCR Player**, a user-friendly application that allows authorized operators to access, analyze and process intercepted contents.

HANOVER INTERFACE

MCR system is ready from the very first start-up to intercept and acquire contents coming from targets and networks of different nature, as explained in the scheme below. AREA's technology is constantly kept up to date, along with the evolution of telecommunication and IP networks.





FLEXIBILITY AND SCALABILITY

The MCR system is based on a multi-layer architecture intrinsically modular, flexible and scalable, which is able to adapt in real-time to the different needs that can emerge during interception activities.

A single MCR Server recording unit is capable to receive several voice and IP streams at the same time, generated by multiple targets. There's no theoretical limit to the number of linked MCR servers that can work in parallel, making possible to add new targets at any time.

The key feature of flexibility between number of targets and number of LEA operators is completely realized in MCR system: multiple operators can monitor the same target and multiple targets can be monitored by the same operator.

In this way, the system can be dimensioned according to the number of operators, regardless the number of targets.

MCR system is totally scalable, according to the following parameters:

- Number of targets, remote installations, number of operators, telecom providers involved.
- Data recording and storage.
- Nature of services and contents.
- Telecom providers and ISPs network architectures.

INTEGRATION

MCR system has evolved thanks to expertise acquired over more than a decade, on several national and international projects.

Integration of all activity types (voice, fax, SMS, MMS, videocalls, IP streams, live audio streams, positioning) on a single platform offers many advantages, among which:

- Scalable architecture on storage, services and maintenance costs.
- Short training sessions.

- Time-saving activity management, to optimize costs and operators efforts.
- Security optimization thanks to integrated access and users' permissions policy management. MCR Player is fully integrated with Microsoft Windows® Server's Active Directory for user and groups creation and management.
- MCR Servers can log users access, activities, configurations, ordinary and unexpected events, etc.

COMPLIANTY

MCR System is developed according to most used international handover interface standards.

AREA engineers participate as member of technical boards in these international committees allowing our R&D department to give an important contribution to various standards layout and development.

RELIABILITY

To grant integrity of recordings, all contents are digitally signed by MCR Server using SHA-1 authentication algorithm. MCR System is installed with a redundant architecture, to grant maximum security in data storage and maintenance. Moreover, thanks to its event-management function, MCR system can be configured to notify users by e-mail or SMS about new incoming system events and alarms.

MAIN FEATURES

MCR system most important features are:

Listening capability

Listening to recorded telephonic or VoIP calls can be done through an advanced audio playback interface enabling, on top of normal play-stop-rewind-fwd commands, other functions like:

- Cyclic listening on selected audio portions.
- Graphical analysis of audio levels.
- Advanced and customizable software equalizer.
- Professional noise reduction system.



Centralized interface

Regardless the different types of data that are being intercepted, with MCR system LEA operators can rapidly access to all acquired contents (voice and IP data), using a universal interface that allows to correlate information coming from different media, but belonging to the same target, or to cross information generated by different targets.

Remote access

For LEA operators that are deployed on the field and cannot follow real-time recording of events, MCR system has an alerting function, that warns operators of incoming events and recordings by SMS.

Using a normal telephone to compose a classified number, operators can access to an interactive voice menu that guides users through various functions such as search, selection and listening, even real-time, of recorded audio or VoIP contents.

Data management

MCR system creates automatically a database containing, for each target, information such as phone number or internet ID, call or IP stream date and time, call duration and IRI (Interception Related Information), where available. LEA operators can also integrate these data with additional information, such as: relevance of the interception, subject of the interception, localization information, etc. On top of the common functions "insert & search", LEA operators can also manage full transcription of the communication contents throughout the call.

MCR Player embeds many Microsoft Word® functions and allows LEA operators to export data on general models.

It is also possible to automatically or manually export data to other systems.

Thanks to the integration with MCR Studio, AREA's tool developed for targets relationships analysis, LEA operators can analyze in real time any intercepted traffic. No manual import operation is needed by MCR server and the operators are immediately receiving up-to-date information from the Communication Contents database.

Automatic IRI -

Communication Content association

IRI may be sent on different media (ISDN lines, e-mails, FTP), by each Service Provider; MCR system manages all those media types and correlates IRIs with their respective Communication Contents with no interaction from LEA operators, making the process totally automatic, according to ETSI standards.

This mechanism allows operators to access rapidly to complete information for every recorded data set.

Multilevel data analysis

Access and visualization to recorded contents are rapid and easy, regardless the technology they have been acquired from: a complete and unified browsing interface allows operators to visualize e-mails, web pages, FTP transfers, chat and voice calls. The interface can be also customized by user type (according to their MCR privileges).

MCR Player offers the possibility to have multiple visualization levels, from basic content view, that shows data as they are, to the advanced content view, that allows expert users to locate particular portions of captured traffic or analyze unknown protocols.

Furthermore, MCR Player can represent ASCII-based protocols (such as IRC, SMTP, POP3, HTTP), as plain text files.

Phonebook

Phone numbers and internet IDs of targets are all stored in a phonebook that is customizable by LEA operators with notes and comments.

A phonebook can either be assigned to a single target, to contain all his contacts, or to a whole service, which can comprehend multiple targets. Different phonebooks belonging to active targets can also be visualized together.

MCR Player allows the analysis of relationships among targets by the display of calls or IP data transfer direction and frequency.



Cartography view and GM-GPS localization

LEA operators have access, through MCR Player, to the cartographic (both historical and live) view of the target position, whenever location data are present into IRI messages. It is also possible to follow the movement of multiple targets at the same time (recognized by their colors) and display on the map(s) additional information about the targets (such as monitored number, timestamp of the event, etc). The "historical view" allows setting a particular time interval in which the operator wants to display the target's positions history.

Live audio interception support

MCR system can support all kinds of recording (analog line, low frequency, ISDN line, etc) for fixed or vehicular tactical interceptions. Furthermore, MCR Player integrates the management of MCR Tracer, a tool developed and built by AREA for GSM/GPS localization of vehicles and vehicular live audio interception. Through DTMF signaling, MCR Player can also manage and poll third-party peripherals, including features as threshold levels (vox) for automatic start/stop of audio recording on the remote tactical devices.

Configuration and management

MCR system has a user-friendly management console that allows LEA operators to easily modify operational parameters, even with a remote connection. Software installation is simple and immediate, ready to be deployed on different hardware infrastructures.

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