IBIS®

INTEGRATED BALLISTIC IDENTIFICATION SYSTEM

The technology behind
the world's most effective
ballistic identification networks

SEE MORE. LINK MORE.
SOLVE MORE.

THE CORNERSTONE OF CRIME GUN INTELLIGENCE INITIATIVES

THE IBIS® SOLUTION

INTEGRATED BALLISTIC IDENTIFICATION SYSTEM

IBIS is a technological weapon in the fight against gun violence. The IBIS search engine extends the capabilities of law enforcement agencies to quickly find links between firearm-related crimes.

- IBIS uses specialized 3D microscopy to capture the unique marks left by firearms on fired bullets and cartridge cases.
- An IBIS solution can start with one location and can extend to multiple sites, all contributing seamlessly within an integrated network.
- IBIS makes it possible for agencies to collaborate across jurisdictions, both within a national program and internationally.
- IBIS uses powerful algorithms to reveal the most likely matches within IBIS networks representing millions of bullets and cartridge cases.
- High-definition 3D viewing makes it easy to review the top search results, ranked by similarity, by using virtual microscopy to visually compare surface details.
- A match found in IBIS is often sufficiently apparent to provide an investigative lead, without having access to the physical evidence.
- If required for court testimony, an IBIS match can be formally confirmed by a firearm examiner.

Ultra Electronics Forensic Technology is committed to excellence. We partner with customers to implement successful preventive crime gun strategies.

IBIS is the world's leading automated ballistic identification solution.

IBIS Helps Solve Crimes

Evidence from seemingly insignificant firearm-related incidents can provide the missing link to solving more serious crimes. IBIS solutions generate investigative leads by linking crimes that may otherwise go unconnected. They provide timely, actionable intelligence for the investigation of firearm-related crimes. IBIS programs worldwide have contributed to the arrest of thousands of criminals.

Keys to Success

- Comprehensive collection of fired cartridge cases and bullets from all firearm-related incidents and recovered firearms.
- Timely processing of crime gun test fires and evidence from all jurisdictions (regional approach).
- Timely communication of investigative leads linking firearm-related events (rapid turnaround).
- Integration of multiple forensic and investigation systems for effective crime gun intelligence programs.

IBIS Around the World

- Used in over 75 countries
- Over 1,000 IBIS stations in operation
- Millions of acquired bullets and cartridge cases from crime scenes and test fires from recovered firearms
- Backbone of the largest national ballistic identification networks
- INTERPOL's choice to interconnect member countries

Forensic Technology benefits from worldwide IBIS user expertise, which directly contributes to continued research and development of IBIS solutions.

Cutting-Edge Technology

IBIS combines advanced technology and expertise to provide law enforcement agencies with an effective ballistic identification solution to help reduce gun crime.

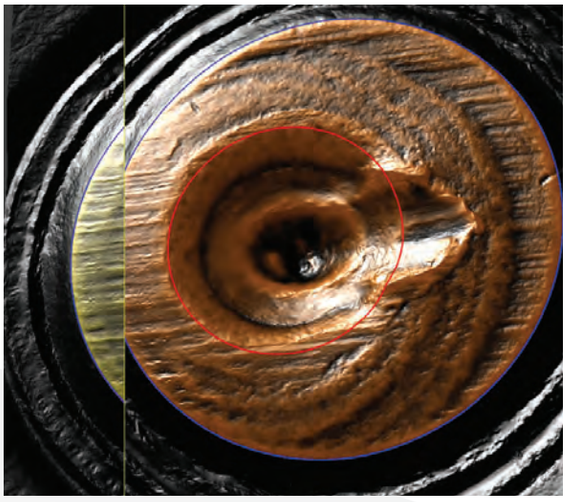
- High-definition 3D offers true capture of surface topography details and shape.
- 3D virtual microscopy is accessible to technicians, freeing up firearm examiners to focus on more specialized work.
- Automated acquisition produces consistent image quality and uniformity for optimal comparison performance.
- Easy to operate workstations require minimal training.
- Reliable and secure data management infrastructure.
- Comparison algorithms specialized for large quantities of challenging firearm evidence.
- 3D comparison viewers with capabilities beyond conventional optical comparison microscopy.

Research and Innovation

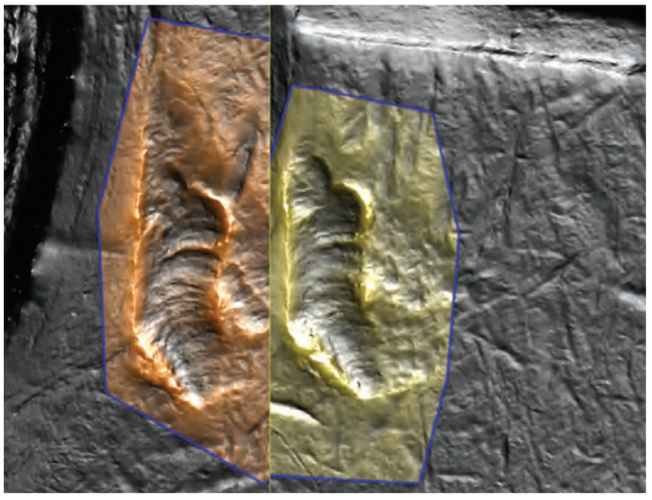
IBIS technology is the most advanced of its kind. After decades, it continues to evolve with custom-built technology and scientific expertise.

- Forensic Technology's research team is the leader in the field of automated ballistic identification.
- Forensic Technology scientists and engineers work in partnership with firearm examiners to evolve IBIS.
- From acquisition quality to correlation performance, IBIS consistently delivers excellence.

CARTRIDGE CASES



3D Primer Comparison



3D Ejector Mark Comparison

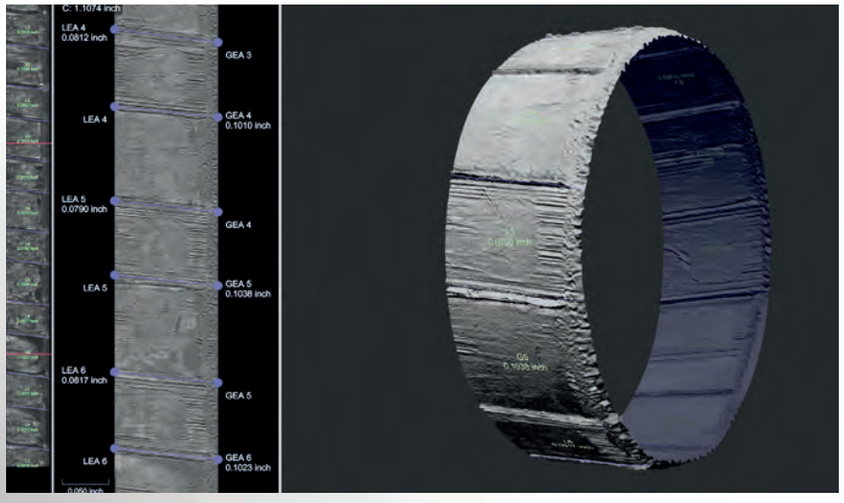
12 Image Types
4 Regions of Interest

Breech Marks
Firing Pin Impressions
Ejector Marks
Headstamp

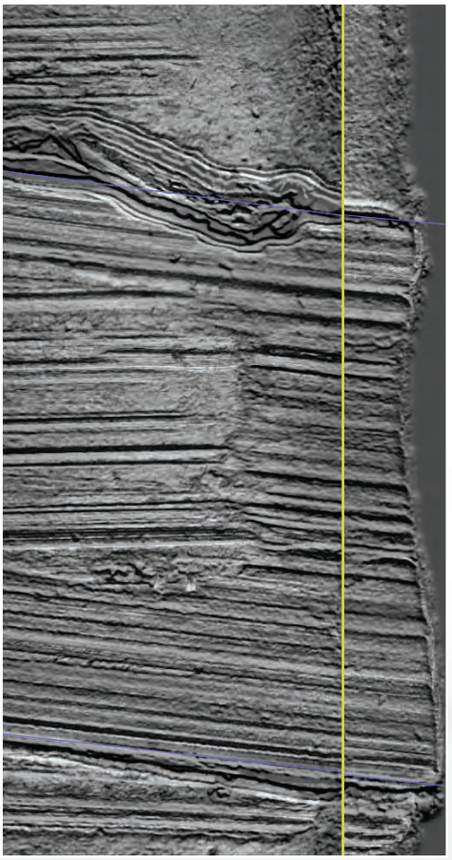
MultiViewer

2D Images and
3D Topographies

BULLETS

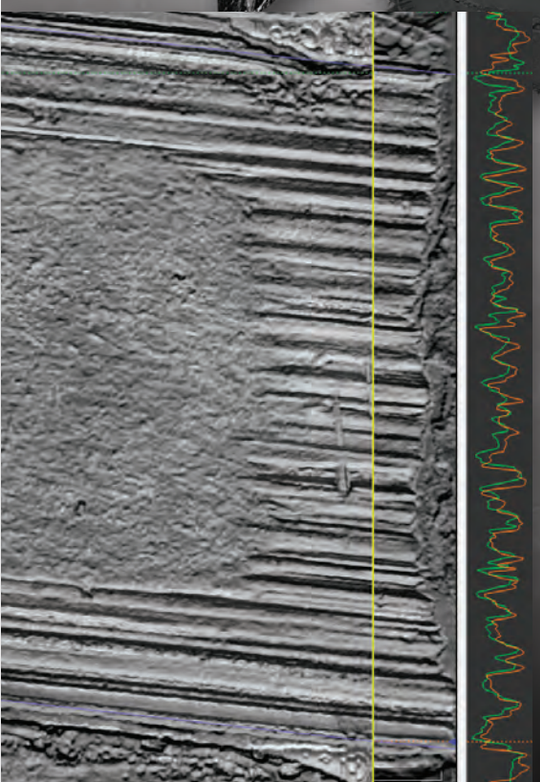


Wraparound Bullet Acquisition



Side-by-Side Comparison

3D Visual Comparison Tools



Fragmented Bullet Acquisition

Bullet Types

	Conventional	Polygonal	Unrifled
Undamaged (incl. Test Fired)	✓	✓	✓
Damaged/Deformed	✓	✓	✓
Fragmented	✓	✓	✓

IBIS® COMPONENTS

High-Definition 3D Topography

Easy-to-Operate, Automated System

All Calibers All Firearm Types

Capture

BRASSTRAX

Digitally captures the regions of interest on a cartridge case in 2D and 3D, revealing considerable impression detail and multiple viewing perspectives.

BULLETTRAX

Digitally captures the surface of a bullet in 2D and 3D, providing a topographic model of the marks around its circumference.

Intelligent surface-tracking technology automatically adapts to the deformations of damaged and fragmented bullets.

Millions of bullets and cartridge cases have been captured into IBIS networks.

Manage Data

Data Concentrator

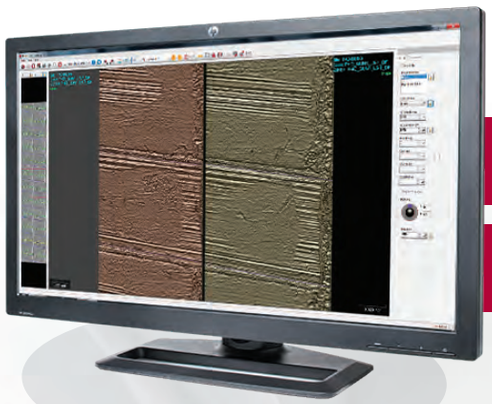
Preserves and protects the captured data and coordinates automated data sharing. Serves as an IBIS network's focal point for data access and management.

Compare

Correlation Engine

Finds evidence matches with the highest similarity in the top search results. Maintains strong performance even when searching large databases.

IBIS correlation algorithms are tailored to the complexities of firearm forensics.



Review Results

Identify Matches

MATCHPOINT

Provides extensive 3D viewing tools to review the correlation results, significantly increasing identification success rates.

High-confidence matches can be quickly communicated as leads to investigators.

Communicate

Combine exported IBIS information with other systems by overlaying technologies.

HIT VIEWER

Accesses IBIS hits on the VisionX comparison microscope to assist in the confirmation process.

Collaborate

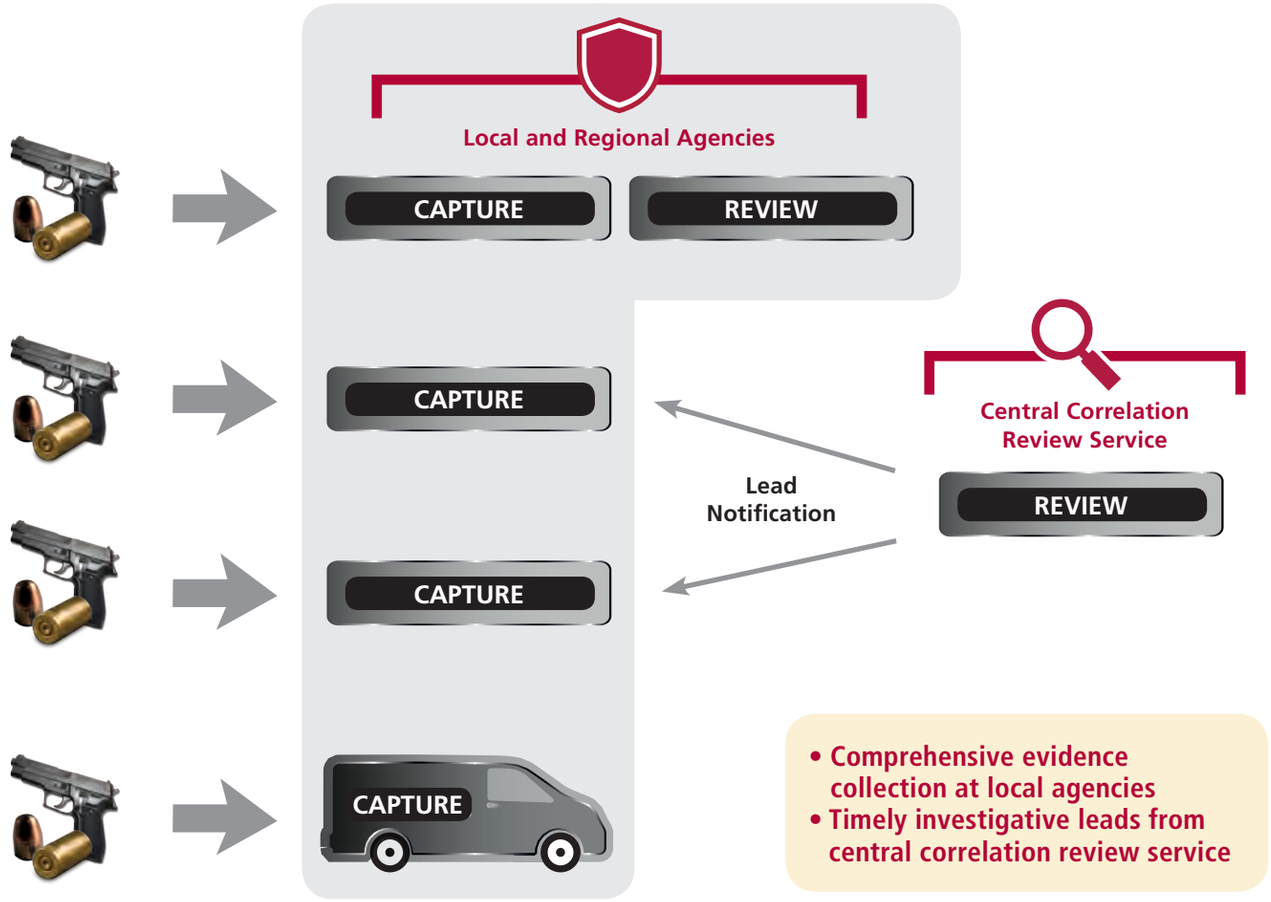
- INTERNATIONAL
- NATIONAL
- REGIONAL
- LOCAL

Worldwide data standards

Interconnect IBIS networks at all levels for optimal collaboration in finding linked crimes.

FLEXIBILITY

Modular IBIS components offer flexible deployment options and scalability to adapt to each agency's needs.



Expanded Collaboration

Governments are increasingly aware that solving firearm-related crimes requires collaboration across jurisdictions and among countries. An IBIS network provides a comprehensive infrastructure of organized and standardized data sharing for ballistic identification.

- INTERPOL member countries collaborate through IBIS technology.
- IBIS correlation remains effective even when searching across large national databases.
- Automated networking and correlation allow for seamless integration of all components within a local IBIS network and across IBIS networks.
- Data compression and smart sharing ensure optimal use of network communications.
- Image and metadata standards enable consistent comparisons locally and internationally.

OPTIONS

Integration with Other Systems

Integrating IBIS with other systems allows agencies to streamline the information flow and enhance crime gun intelligence initiatives. The crime gun information gathered by an IBIS network can be extracted and combined with information from other sources to support criminal investigations, analyze trends over time, produce reports, and evaluate operational performance.

Automated data exchange helps generate timely, actionable intelligence.

Advanced Security

An IBIS network and its components are built on a robust security infrastructure that can be enhanced with additional security options:

- Central user account management
- Data encryption, antivirus, audit logs, firewalls
- Security patch update management
- Security policies enforced across the network
- Protection of sensitive information

Turnkey Solutions

Forensic Technology manages deployment and maintenance so that agencies can focus fully on crime gun intelligence initiatives. IBIS is a complete solution with the infrastructure to support all its system components.

Beyond the installation of the equipment, Forensic Technology provides:

- Accessories and peripherals
- User training
- Professional services
- Support and maintenance

About Ultra Electronics Forensic Technology

Ultra Electronics Forensic Technology pioneered automated ballistic identification over 25 years ago and continues to be a global leader in forensic solutions that promote a safer society.

Forensic Technology partners with hundreds of public safety agencies in over 130 countries to provide cost-effective and sustainable solutions. With vast experience in creating industry-leading technology, we employ dedicated teams of engineers, scientists, and law enforcement professionals around the world.

Building Global Partnerships

Every IBIS investment represents a growing partnership. Modern crime-fighting technology requires innovation, development, and expertise. We help our customers establish successful programs that make the best use of IBIS technology. We offer a range of services, including keeping IBIS equipment updated with the latest advancements, and providing users with ongoing training.

Global Customer Services

Our worldwide support network offers 24/7 services from seven offices on four continents in multiple languages. We have achieved ISO 9001 certification for our facilities and ITIL certification for our support staff, where applicable, in order to satisfy the most stringent quality standards.

Training

Our highly experienced trainers work closely with our product development experts to deliver the most relevant and up-to-date training. Depending on the specific needs of customers, trainers can conduct one-on-one sessions, consult with small groups, or combine a mix of both—all in the convenience of customer facilities, anywhere in the world.

E-Learning

All IBIS users have access to the Forensic Technology E-learning service designed to support and deepen their knowledge of IBIS solutions. Our growing resource library is available through a secure web portal which provides exclusive access to basic training courses, user guides, and other helpful information including webinars and how-to videos to help maximize the effectiveness of IBIS solutions.

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ULTRA

Solutions for a Safer Society

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