# Evidence Management Systems are the Standard for Collection and Analysis

STAR LIMS

*By Robin Gall, Ph.D.*

The success of a criminal investigation depends on thorough and accurate collection and analysis of evidence found at the crime scene. In recent years, the use of Evidence Management Systems (EMS) has become a major trend in forensic labs throughout the U.K. These systems are regarded as essential tools helping forensic analysts work more efficiently to support the full evidence lifecycle from scene of crime to court.

## Combine Evidence Analysis and Quality Management

Many forensics laboratories are streamlining evidence documentation with EMS solutions, as they provide out-of-the-box functionality. For example, STARLIMS's web-based laboratory information management system, the STARLIMS Forensics solution, may be adapted to serve the needs of most law enforcement organisations. The forensics package addresses all aspects of criminal investigations, including crime scene evidence collection, property management, laboratory analysis, court testimony, and quality-assurance activities. A single comprehensive system, such as STARLIMS, mitigates the need for purchasing and maintaining multiple interfaces for these related functions, yet is flexible enough to interface with existing systems that law enforcement organizations rely upon.

The typical forensics laboratory workflow includes evidence receipt, analyst assignment, chain-of-custody transfers, assignment of tests, results entry, and reporting and review. The system makes it easy to access data and pull all relevant information together when preparing for a trial. Evidence may progress through the forensics lifecycle without users having to re-input data time and time again.

Storing evidence information electronically saves a great deal of time for busy lab technicians. For example, instrument data is parsed automatically into predefined fields or worksheets, enabling analysts to concentrate on data interpretation more than data entry. All data from case notes, property receipts, submittal forms, instrumental results, and quality assurance activities are stored in the software and readily available with the click of a mouse. This capability enables technicians to prepare reports much faster because selected data are pre-populated onto the report and commonly used terms are easily inserted.

While it is important for law enforcement agencies to be able to process evidence quickly, software solutions should also offer ongoing quality assurance checks to help labs achieve and support compliance with ISO 17025, the main standard used by testing and calibration laboratories. STARLIMS gives prompts to perform QA checks on instruments and reagents and document them. If an analyst enters or scans the barcode of an expired reagent, that reagent will not be available to perform a test. Also, for labs with new analysts in training, the system has checks to assure that trainees will be permitted to perform only the examinations for which they have been approved.

Other key features offered in the STARLIMS forensics solution include document control and equipment and materials management. The document management feature allows users to keep track of archived training manuals, standard operating procedures (SOPs) and other materials. Documents are linked to analyses, individuals assigned for review, and cross-referenced to quality standards they support.

Individuals responsible for the documents may be identified and then alerted when it is time to review the materials. The system tracks all inventory and easily extracts lists of every case, exhibit and analyses for which a given reagent was used.

After the evidence data is analysed, users have the option to draft reports in Microsoft Word with unit-specific templates and version control, and save final reports as PDF files for manual or digital distribution.
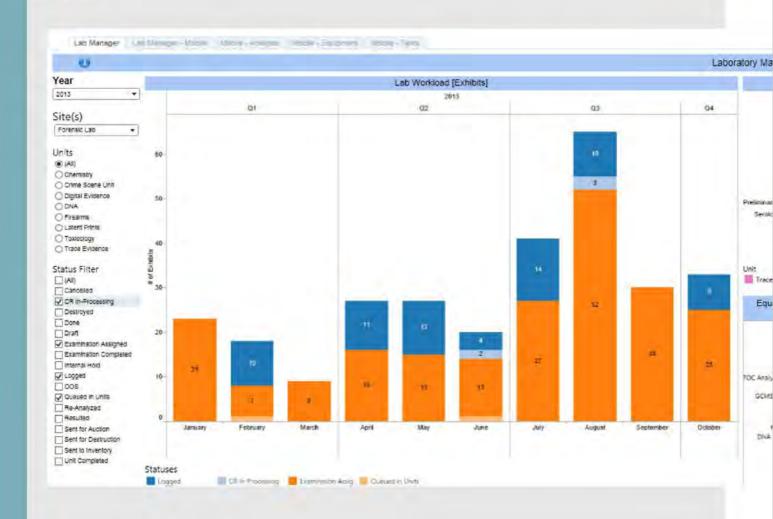


## An EMS Must be Compatible with Mobile Devices

Today, most law enforcement and judicial networks permit connections with smartphones and tablet devices, and forensics laboratories are evaluating the abilities of their EMS to allow appropriate tasks to be performed on mobile devices.

Clearly, EMS solutions should have robust, easily adaptable mobile applications. The days of being tethered to a desktop in order to interface with the EMS are over. The guiding principle should be whether EMS solutions enable users to use the right screen—desktop, laptop, smartphone or tablet—for each task.

Selecting the right screen for the task enables lab managers to view laboratory key performance indicators remotely or to authorize and release urgent results. Prosecutors should be able to view evidence sample status and released results in real-time without calling busy laboratory staff. STARLIMS software creates forms to run on alternative browsers and includes a single mobile application. The software allows access to Chrome, Safari and other alternative browsers and permits display of EMS information on tablets and smart phones.

## Advanced Analytics Turn Data into Actionable Information

Another potential advantage of EMS solutions is advanced analytics, which offers powerful visualisations for users to view data, providing them with insights and trends to help make better decisions. Workflow and productivity data may be accessed on the spot for prompt analysis and decision making. STARLIMS software offers advanced analytics capabilities with out-of-the-box dashboards that make an immediate impact on law enforcement operations, such as optimising workflow and identifying bottlenecks.

Agencies get fast answers about case loads; case breakdowns by unit, analyst or offence; turnaround times for various agencies served by the lab; number of cases out to court, number and type of crime scenes worked year after year, number of corrective actions in a given year; and repair histories for lab instruments.
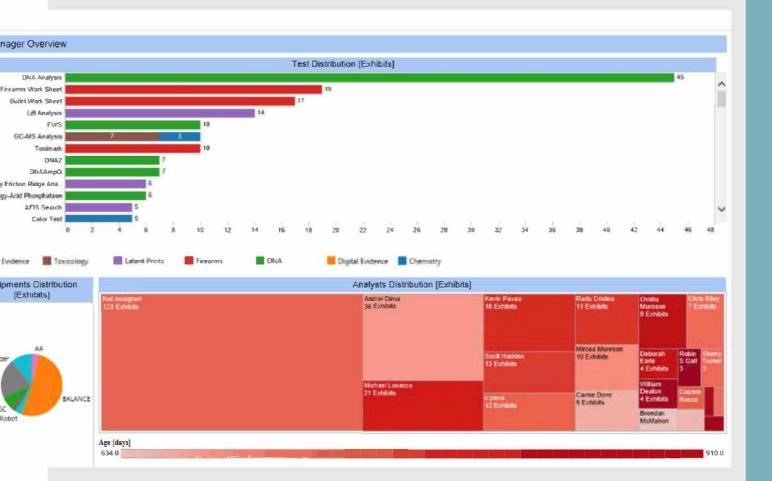
## Crime Scene and Property Solution

Collecting evidence at a crime scene is an intricate and tedious process. Just one mistake could have a disastrous impact on the disposition of a criminal case. As a web-based crime scene solution, STARLIMS offers a comprehensive application designed to help streamline the evidence-documentation process. For example, when evidence is barcoded and entered into the EMS at the scene, standardised drop-down lists and crime scene processing checklists improve efficiency and ensure accuracy. Every piece of evidence is documented and tracked from crime scene to courtroom.

In the property warehouse, every item must be tracked at all times. Loss of evidence is not an option. STARLIMS offers real-time tracking, documentation and reporting. Barcodes assure efficient transfer and chain of custody, tracking evidence from receipt through disposition, including destruction, auction or return to owner.

Given the pressures faced by law enforcement agencies today, it is essential to employ the most up-to-date information management technology to better assist analysts with efficient data entry, dynamic reporting, comprehensive documentation and effective quality control. Evidence Management Systems, such as STARLIMS, provide the right solution for tracking and accessing evidence from crime-scene collection to final deposition.



### About the Author

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*For more information about STARLIMS, visit* https://www.starlims.com