Landscape Study of **Software-Based Evidence Management Systems for Law Enforcement**



January
2021

NIJ Contact:
Steven Schuetz
Senior Physical Scientist
steven.schuetz@ojp.usdoj.gov

CJTEC Contact:
Jeri D. Ropero-Miller, PhD, F-ABFT
Project Director, CJTEC
jerimiller@rti.org

Rebecca Shute
Innovation Advisor
rshute@rti.org

Criminal Justice Testing and Evaluation Consortium
A Program of the National Institute of Justice

TABLE OF CONTENTS

1 **Overview**

8 **Context**

11 Agencies may be limited by the technology or approach they use to manage evidence.

13 Software-based evidence management systems help agencies locate, track, and dispose of property and evidence.

17 **Product Landscape**

24 **Adoption Guidance & Use Profiles**

27 The Greenville County Department of Public Safety and their use of FileOnQ's EvidenceOnQ

29 A West Coast Agency and their use of Evidence TraQ

31 Omaha Police Department and their use of Tracker

34 Henry County Police Department and their use of ERIN

36 South Tucson Police Department and their use of Porter Lee's BEAST System

37 **Company Profiles**

37 Erin Technology

38 FileOnQ

39 JusticeTrax

40 PMI Tracker

41 The PERCS Index

42 QueTel

43 **Appendix**

This publication was made possible by Award No. 2018-75-CX-K003 awarded by the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. The opinions, findings, and conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect those of the Department of Justice.

The software products detailed in this landscape study are intended to be a good-faith overview but not an exhaustive list of commercially available products. The inclusion of a product or company in this report does not represent NIJ's or CJTEC's recommendation, endorsement, or validation of product claims.

OVERVIEW

Landscape Study of Software-Based Evidence Management Systems

This report identifies how software-based evidence management systems may enable law enforcement agencies to efficiently locate, manage, and dispose of physical evidence. It offers a "landscape" of currently available and emerging software products for physical evidence management. In addition, the report provides key benefits, limitations, and adoption considerations for these products; these details have been gathered from interviews with end users and property room evidence management experts. The information provided will help law enforcement agencies consider, select, and implement these software products.

NIJ | National Institute of Justice
STRENGTHEN SCIENCE. ADVANCE JUSTICE.

Criminal Justice Testing and Evaluation Consortium (CJTEC)

CJTEC is a program of the National Institute of Justice (NIJ), which uses research-based methodologies to enhance the capabilities of law enforcement, courts, and corrections agencies. As a consortium, CJTEC leverages expertise from varied criminal justice community stakeholders to understand and test technologies and practices in a variety of NIJ's research areas.

RTI INTERNATIONAL

RTI International

RTI International is an independent, nonprofit research institute dedicated to improving the human condition. Clients rely on us to answer questions that demand an objective and multidisciplinary approach—one that integrates expertise across the social and laboratory sciences, engineering, and international development. We believe in the promise of science, and we are inspired every day to deliver on that promise for the good of people, communities, and businesses around the world. For more information, visit www.rti.org.

RTI International leads CJTEC. CJTEC leverages RTI's expertise in criminal justice, forensic science, innovation, technology application, economics, data analytics, statistics, program evaluation, public health, and information science.

This report was authored primarily by RTI International's Innovation Advisors—including Rebecca Shute, Richard Satcher, and Emily Vernon—with support from Molly O'Donovan Dix and Kristina Cooley, as well as RTI's Applied Justice Research Division—including Jeri Ropero-Miller and Jim Markey.

CJTEC would like to thank Nancy McKay-Hills, retired Evidence Superintendent of the Tucson Police Department, for her thoughtful input to—and review of—the report.

Agencies need efficient, secure, and informative evidence management approaches.

The criminal justice community has a duty to secure, account for, and locate property and evidence (P&E) in their custody. Law enforcement agencies' P&E rooms serve as a primary custodian of evidence. Agencies around the country receive evidence daily—and for some jurisdictions, that translates to hundreds of thousands of pieces of evidence annually. Systems that manage a large volume of evidence effectively can

- **secure** and maintain evidence integrity and prevent theft;
- **locate** relevant information in an **efficient** manner and **dispose** of items to free up space in the P&E room; and
- provide **access** to information for software users, agency leaders, and external stakeholders that request information from the P&E room.

Law enforcement agencies employ varied methods to manage evidence; these methods may include paper- or spreadsheet-based systems, barcode software, evidence management modules built into law enforcement product suites, and software-based evidence management products. Although some methods may fit the needs of smaller agencies, heavier volumes of evidence may require a higher level of maintaining and demonstrating evidence integrity, faster location of items and information, improved management of P&E room space, and better understanding and analysis of key performance indicators.

Software-based evidence management systems help agencies locate, track, and dispose of P&E.

Software-based evidence management systems are specifically designed to help P&E personnel manage large amounts of evidence. These products have a barcode-based tracking mechanism with a searchable database that provides an accurate picture of the items going into and out of the P&E room. Compared to other evidence management approaches, these systems offer the following key features:

- **Security:** These systems document interactions with evidence, providing a more secure chain of custody and audit trail to safeguard evidence against loss, theft, or tampering. Barcode technology enables real-time tracking and updating.

- **Efficiency:** The use of robust databases enables high-powered search capabilities, as well as streamlined disposition processes. Agencies can spend less time freeing up necessary P&E room space.
- **Access to information:** The aggregation of insights helps users understand high-level P&E room trends and needs. The information management enables communication between systems, and automated creation and dissemination of reports.

This report provides an overview of standalone systems that can help agencies manage evidence.

CJTEC consulted P&E experts—including those who use software-based management systems—and software vendors to understand needs, key value-adding features, commercially available products, and considerations for adopting these solutions. This report will help agency decision-makers understand how these systems can provide value and identify important questions to ask prior to implementation. Product tables compare selected products, capture insights from end users, and highlight use cases. Self-assessment questions support planning, procurement, and implementation. **Figure 1** lists the standalone software systems considered in this report.



Figure 1: Selected software-based evidence management products were considered and compared for this report; the landscape of products is large, and this set comprises companies that responded to a public request for information (RFI), are market leaders, or had some aspect of interest in the subject of property management.

Agencies must weigh value against limitations when considering whether to implement software-based evidence management systems.

Software-based systems can ultimately improve efficiency and the ability to ensure evidence integrity; however, agencies must understand the significant amount of time and labor needed to implement and also maintain these systems. **Figure 2** highlights the value propositions, limitations, and adoption drivers that agencies should consider when implementing these systems. More considerations for implementing software-based evidence management systems can be found in the Adoption Guide.

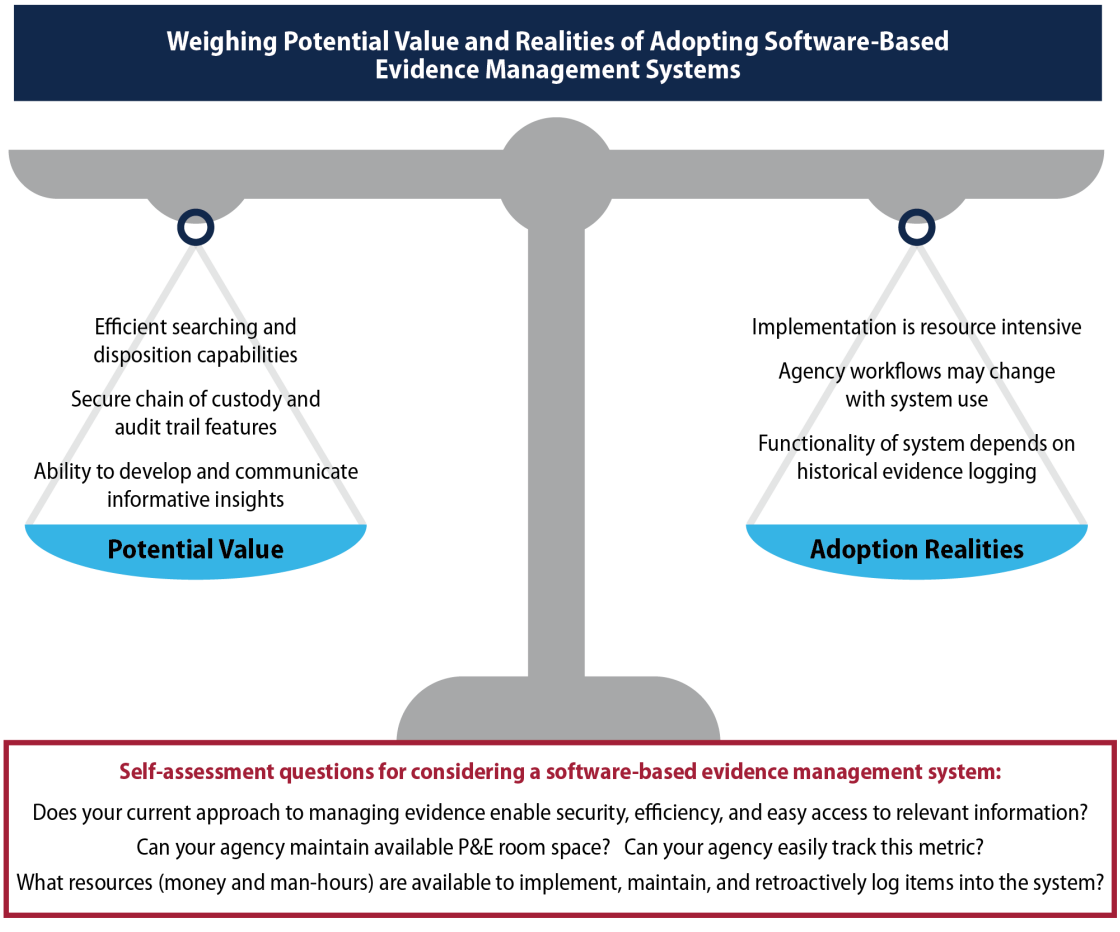


Figure 2: Software-based evidence management systems may not be appropriate for all agencies.

Landscape Research Methodology

This report consolidates available information regarding P&E management software products, enabling agencies to better understand the potential benefits and limitations of these products in the context of evidence management.

To conduct this study, CJTEC used an iterative process that included the following steps:

1. Scan extant literature:
   - Consulted secondary sources, including product and International Association of Property and Evidence (IAPE) literature, to understand key market players and documented evidence management needs
2. Consult with experts, practitioners, and other key stakeholders:
   - Interviewed experts and end users about key responsibilities in evidence management, gaps in current approaches, and the value of implementing current standalone software-based evidence management products; these interviewees included experts from the IAPE, P&E technicians, and decision-makers in local law enforcement agencies
   - Reached out to vendors to understand their product offerings, typical customers, and product value-adding features
   - Received comprehensive landscape study feedback from Nancy McKay-Hill, retired Evidence Supervisor for the Tucson Police Department, and Shannan Williams, Project Manager of the National Institute of Standards and Technology (NIST)/NIJ Evidence Management Steering Committee, to review our key findings; and Ben Swanholm, an Assistant Crime Laboratory Administrator from the Phoenix Police Department, to review for technical accuracy
3. Solicit market input for products:
   - Created a request for information (RFI) on the Federal Register to solicit input from companies and researchers developing products in this field; this RFI's text can be found in the Appendix
4. Consolidate and synthesize information:
   - Synthesized and analyzed P&E management software systems
   - Summarized RFI responses and market information to compare commercially available software-based evidence management products
5. Provide case examples:
   - Built case studies based on the experiences of real agencies selecting and implementing software-based evidence management systems

CJTEC would like to remind decision-makers considering implementation that these products should be evaluated with existing agency policies and procedures in mind, which might not directly align with solutions/products.

Glossary

Access Controls
Selective restriction of access to a system or elements with a software product; the level of restriction depends on the individual's approved access

Chain of Custody
Documentation of evidence from receipt to disposition

Commercial off-the-Shelf (COTS) Product
A product that is currently available for purchase on the market

Configuration
The ability to rename existing, or create additional, fields as part of a COTS software application

Customization
Changes in the source code of a COTS software-based evidence management system implemented by a programmer

Evidence
Items recovered during a crime investigation; for the purposes of this document, evidence refers to physical evidence

Evidence Disposition
The process of removing evidence from the P&E room, which may include destroying, returning, depositing, auctioning, donating, or disposing of evidence

Integration
Refers to the assimilation of multiple software products into one larger product

Interfacing
Refers to two separate software products that work together, usually by an application program interface (API)

Laboratory Information Management System (LIMS)
Software that laboratories use to assist with managing laboratory operations

Pre-logging
Refers to logging evidence at a crime scene prior to bringing the evidence into the P&E room

Property
Items recovered by law enforcement that are not related to an investigation, with similar integrity controls to evidence

Property and Evidence (P&E) Personnel
Personnel responsible for managing physical evidence

Records management system (RMS)
"An agency-wide system that provides for the storage, retrieval, retention, manipulation, archiving, and viewing of information, records, documents, or files pertaining to law enforcement operations. RMS covers the entire life span of records development—from the initial generation to its completion."[1]

Software-based Evidence Management System
Software that law enforcement agencies use to assist with managing physical evidence

1. Standard Functional Specifications for Law Enforcement Records Managements Systems Version II. Bureau of Justice Assistance, Office of Justice Programs, U.S. Department of Justice, in collaboration with the Law Enforcement Information Technology Standards Council. https://www.ncjrs.gov/App/Publications/abstract.aspx?ID=251695

Thank you to the various criminal justice community stakeholders and practitioners who provided insights and expertise.

Information gathered from subject matter expert and end user interviews helped to frame issues, consider solutions, and ultimately inform this report in working to deliver key insights for decision-makers interested in implementing solutions. CJTEC sought feedback from varied stakeholders—including law enforcement and P&E experts—to understand the value of specific systems and the practical implications of adoption and use.

KARA BENNICK
Property/Evidence Supervisor
Greenville County Department of Public Safety
Greenville, South Carolina

DARRELL DAVIS
Former Laboratory Director
Drug Enforcement Administration
Dallas, Texas

JIM MARKEY
Senior Law Enforcement Specialist
RTI International
Tempe, Arizona

NANCY MCKAY-HILLS
Retired Evidence Superintendent
Tucson Police Department
Tucson, Arizona

RICHARD MUNOZ
Law Enforcement Tech & Ops Support
South Tucson Police Department
Tucson, Arizona

MARCI PETERS
Evidence Technician
McMinnville Police Department
McMinnville, Oregon

BEN SWANHOLM
Assistant Crime Lab Administrator
Phoenix Police Department
Phoenix, Arizona

STACI WITKOWSKI
Lieutenant
Omaha Police Department
Omaha, Nebraska

CONTEXT

The criminal justice community has a duty to manage P&E items in their custody—with the ability to locate, maintain integrity of, and dispose of these items. As **Figure 3** shows, property refers to items recovered by law enforcement that are not related to an investigation, and evidence refers to items recovered during a crime investigation. Although both property and evidence are stored in a P&E room and are subject to the same integrity controls, this report focuses primarily on proper management of physical evidence, which is relevant to the criminal justice community.[2]

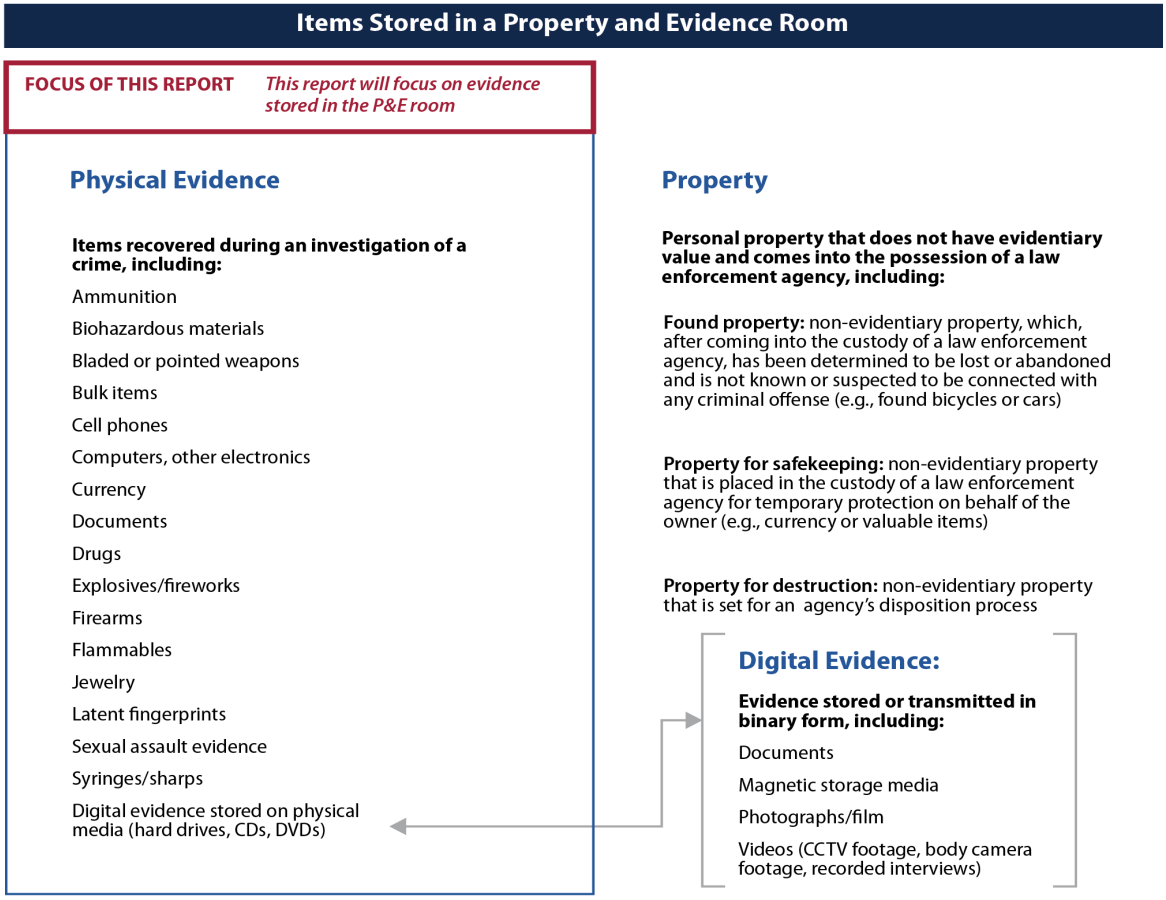


Figure 3: Property and evidence are stored in a P&E room and are subject to the same integrity controls. Agencies may collect and store digital evidence, such as text messages, images, and video. While some evidence management products offer capabilities to manage these data, this report focuses on systems for management of physical evidence, including digital evidence stored on physical media.

2. Definitions and examples adapted from the IAPE's Professional Standards: https://home.iape.org/resourcesPages/IAPE_Downloads/IAPE_Resources/IAPE-Professional-Standards/IAPE_Stands_2_6-2016.pdf

During its lifecycle, evidence may be physically transferred into the custody of multiple stakeholders—such as law enforcement agencies, forensic laboratories, courts, and prosecutors' offices. P&E personnel in law enforcement agencies often serve as primary evidence custodians, and many criminal justice stakeholders interact with evidence in different ways, as shown by **Figure 4**. To effectively manage evidence, these stakeholders need systems that (1) secure and maintain evidence integrity and prevent theft; (2) track down relevant information and dispose of evidence in an efficient manner to free up space in the P&E room; and (3) provide access to information for software users, agency leadership, and external stakeholders that request information from the P&E room.

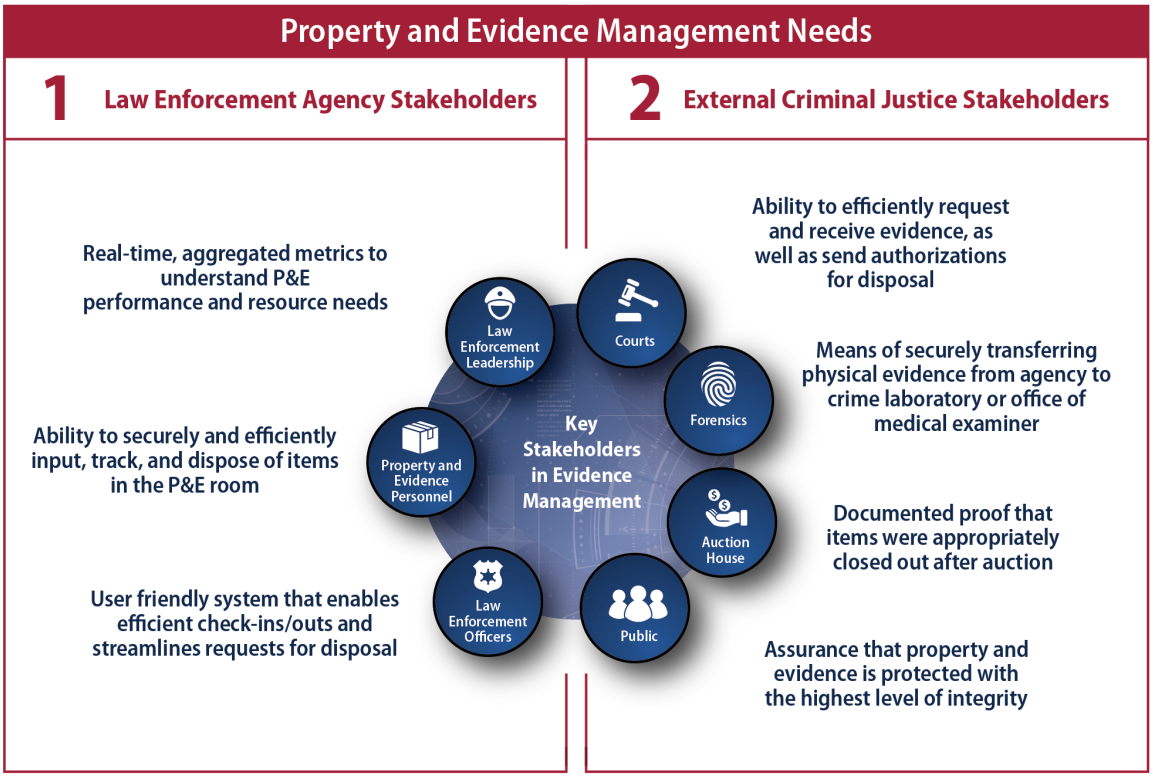
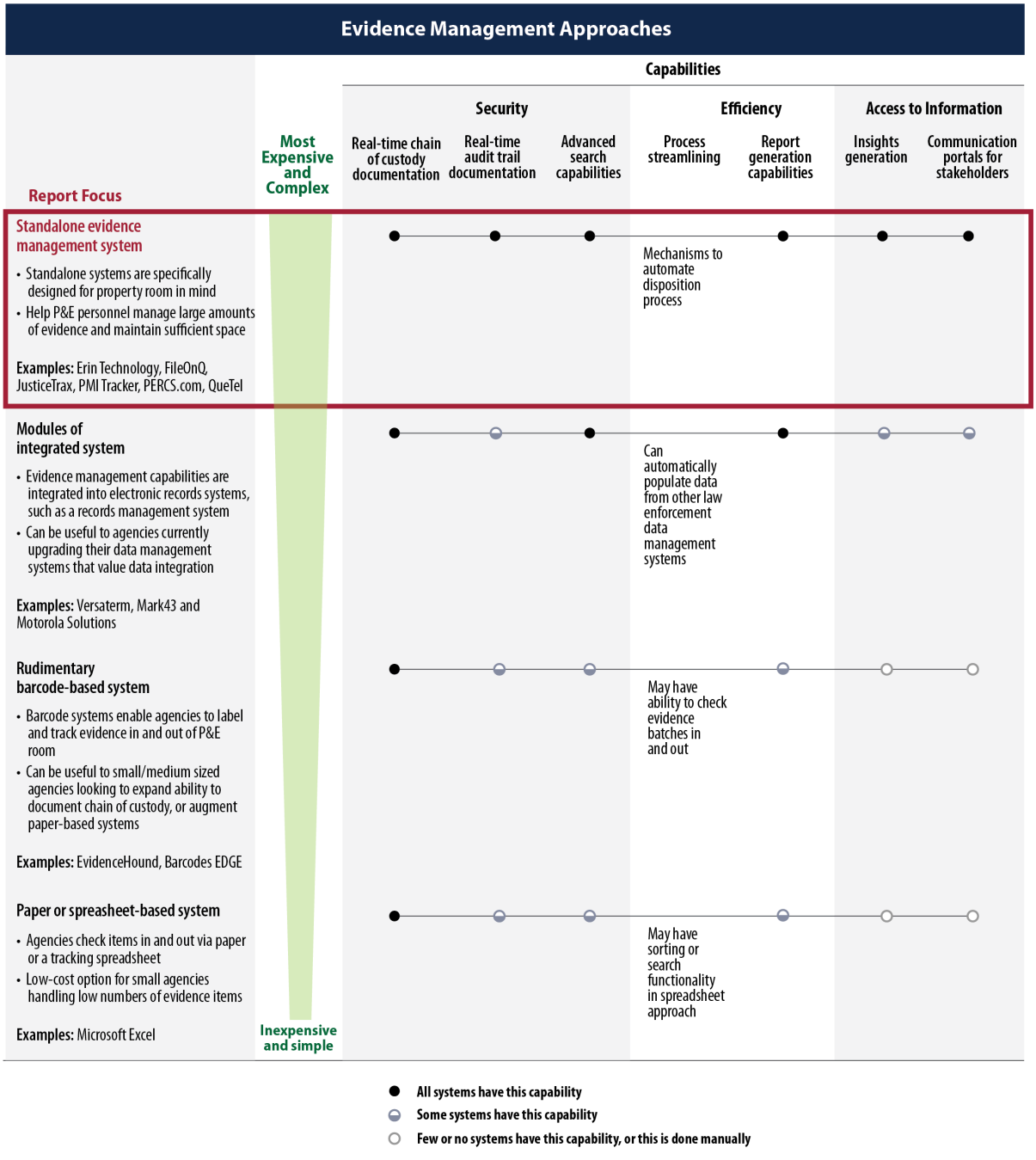


Figure 4: Many criminal justice stakeholders interact with evidence and share similar needs for systems to effectively manage this evidence.

Law enforcement agencies employ several methods to track and manage evidence within and outside of their agency, as shown in **Figure 5**. Traditional methods that represent simpler, cost-effective options for law enforcement agencies include paper-based or spreadsheet-based tracking systems; more recently, agencies have begun to adopt barcode-based tracking mechanisms and modules of product suites, such as records management systems.

Figure 5: Different approaches to evidence management can enable security, efficiency, and information access.



Agencies may be limited by the technology or approach they use to manage evidence.

Various evidence management methods are sufficient in creating a running log of evidence contained within the P&E room and may fit the needs of smaller agencies that have sufficient storage space or a low rate of evidence intake. However, these approaches often fall short in providing secure, efficient, and informative evidence management for agencies that manage large inventories:

Simple systems may leave evidence vulnerable to loss, theft, or tampering.

The criminal justice community helps ensure integrity of evidence through a chain of custody, a means of documenting where an item currently is and where it has been. This approach is an effective method of understanding the current status of the evidence, but chain of custody does not capture all details—such as any changes made to evidence-related information (e.g., the weight of a seized controlled substance). Various types of P&E—such as firearms, narcotics, and money—are a higher security risk and may be targets of theft by individuals outside or inside the agency. As such, agencies need to ensure they have appropriate measures in place for P&E security. Agencies must be able to identify where these items are located upon inquiry and have a clear audit trail for any changes that may have been made to evidence data.

P&E personnel may encounter inefficiencies in tracking and disposing of evidence items.

Agencies around the country receive evidence daily, which translates to hundreds of thousands of pieces of evidence per year for some jurisdictions.[3] Efficient evidence disposal is critical to maintaining the P&E room's organization and agile operations, but this approach is often resource prohibitive. When P&E rooms are near or over capacity, quickly tracking down evidence on demand is more difficult, and overcrowding can jeopardize the integrity of all evidence. In overcrowding situations, agencies may choose to expand to additional off-site storage; however, this approach requires a significant investment in infrastructure, labor, and maintenance costs—all of which further complicate the evidence management process. A nonscientific 2012 survey by the International Association for Property and Evidence (IAPE) indicated that of roughly 1,000 agency participants, 7.2% of them had reached at least 100% capacity in their P&E room, about half were at 75–100% capacity, and roughly 30% were around 50–75% capacity.[4] Survey responses indicated that approximately 9% of agencies dispose of at least one item for each piece of evidence acquired—suggesting that almost 90% of agencies are continuously losing the maintenance of storage space in their P&E rooms.

Law Enforcement INSIGHT

"Evidence divisions—more specifically, theft in evidence divisions—can put chiefs in hot water. You can break a case if evidence is mishandled. Understanding the history of evidence is crucial in a court case. These systems can help show what has happened to evidence and where it has been. Software can help track evidence in a way that improves upon paper-based methods, which are time consuming."

Evidence Supervisor
West Coast Police Agency

3. Statement based on anecdotal interviews from P&E personnel in multiple local agencies.
4. More details about the survey can be found in the IAPE's April 2012 newsletter: https://iape.org/evidencelog/EvidenceLogArchive/2012_Evidence_Log/Evidence_Log_2012_4.pdf While CJTEC realizes that this survey is nonscientific and outdated, it is one of the few pieces of literature aggregating these insights.

One of the best approaches to ensuring available space in a P&E room is to implement proper and timely disposition strategies. With this strategy, consideration needs to be given to the nature of the case because evidence associated with a criminal case generally follows an established statute of limitations, which designates how long a law enforcement agency needs to retain evidence. When the evidence has met the statute of limitations, it may be ready for disposition; this may include returning the item to its owner; disposing at auction; or destroying it, in accordance with jurisdictional policies and regulations. Agencies using paper-based or rudimentary systems usually review evidence item by item or container by container within the P&E room to determine if it is eligible for purging. This process is slowed further if multiple items related to one case have been logged and documented on different handwritten logs. With these time and resource restraints, agencies typically prioritize intaking and entering new evidence over disposing of older items.

A commentary on the IAPE's Disposition and Purging Professional Standard 14 in the IAPE's January 2013 newsletter, "The Evidence Log," noted that "IAPE has determined that it takes approximately 30 minutes per case (not items) to properly research and review the status of each case." For example, the time it takes to review 2,000 cases for disposition is around half of a full-time employee's annual time. With this time-intensive (but necessary) activity, agencies need easy methods to identify which evidence items may be up for disposition.[6]

P&E personnel may lack the ability to quickly understand and communicate key P&E room insights.

Beyond information about an individual item, agencies must understand key performance metrics—such as the number of items going in and out of the facility—to diagnose challenges and identify specific resource needs to improve performance. Paper-based and rudimentary evidence management approaches often cannot aggregate these data into key insights, such as the total cash in inventory, and these insights can be time consuming to generate manually.[5]

Traditional P&E management approaches also lack avenues to quickly update and communicate relevant information, which slows processes within and beyond a given law enforcement agency. Sharing data between P&E personnel and external stakeholders—such as prosecutors or forensic examiners—is often done by physical mail instead of electronic communication, leading to fulfillment delays. With a paper-based system housed in a single location, P&E personnel serve as the key access point for evidence information and must directly support any internal or external stakeholder needing information about evidence. Traditional methods cannot automatically update information about evidence items, such as their current location, which leads to the possibility of miscommunication when tracking down information.

5. Based on anecdotal evidence from expert and end-user interviews.
6. Robert Giles, "Disposition & Purging Commentary-Part 1: IAPE Professional Standard 14." The Evidence Log, International Association of Property and Evidence. 2012 (4).

Software-based evidence management systems help agencies locate, track, and dispose of P&E.

Agencies may look to a variety of tools to improve efficiency and integrity of their evidence management practices. This report focuses on standalone, advanced software systems that are specifically built to fit the needs and workflows of P&E staff—offering improvements to alternative evidence management approaches in efficiency, security, and informativeness.[7] These products are built to support agencies that manage large amounts of P&E; additionally, these products are intended to help (1) save time and P&E room space, (2) create actionable insights so that P&E personnel can make informed decisions about resources needed, (3) communicate with stakeholders effectively, and (4) maintain a high level of security. Commercial evidence management software systems share key features to manage the P&E room, but they offer different strategies for agencies to achieve their objectives. Specific value-adding features of many software products include the following:

- Security measures to safeguard evidence and support audits.
- Robust database that enables efficient search capabilities.
- Disposition protocols for more efficient purging or disposition.
- Ability to generate and aggregate key P&E room insights.
- Interoperability to enhance stakeholder and system communication.

Security measures safeguard evidence and support audits.

Evidence management software systems can document all interactions with evidence—from physical evidence transfers to requests for disposition and court viewing—creating an unalterable chain of custody and audit trail that helps increase confidence in the integrity of evidence recordkeeping. This software provides multiple levels of editing and reviewing permissions that are appropriate for specific end users, such as an officer or P&E staff. The system can help establish a series of checks and balances so that the right individuals have access to the right data, and inventory is tightly controlled. **Internal audit functions** can also help an agency self-assess the robustness of P&E practices and policies.

To maintain chain of custody for evidence, P&E staff must track each item's status as individual items are physically transferred into and out of the P&E room. Software-based programs use barcodes to check evidence in and out, tracking updates and document changes in each item's location. Having

[Implementing a software-based evidence management system] can help with accreditations and audits that law enforcement agencies have to pass, such as CALEA.

Lieutenant Staci Witkowski
Omaha Police Department

Law Enforcement INSIGHT

7. There are many approaches to managing evidence in a property room. This report focuses on advanced management systems built specifically to maintain security of evidence and enable efficient searching and reporting. More specifically, this landscape report profiles "standalone" management systems and does not include purely barcode tracking systems or modules of a product suite, such as an RMS. This decision was based on feedback from evidence management experts and end users about software features that they believe are necessary and add value.

this ease of documentation and real-time tracking decreases the risk of losing evidence. Vendors may enable P&E personnel to efficiently move evidence items for the same case through batch movement capabilities. For example, if a case has 20 pieces of evidence that need to be presented in court, all 20 can be scanned and checked out at once, with one entry for movement rather than one movement per item. This feature saves time in casework, disposition, and in situations in which multiple items must be moved in a short period (e.g., if an evidence freezer with biological samples breaks down).

Agencies must ensure that all actions occurring in the P&E room are properly documented, and that the proper individuals have access to P&E room data. Implementing a software-based system is one approach to moving towards achieving accreditation through numerous organizations, including the Commission on Accreditation for Law Enforcement Agencies (CALEA), IAPE, or local police chief associations. Evidence management software can show clear chain of custody and audit trails to demonstrate evidence integrity and can easily offer key performance metrics, such as total amount of currency on hand.[8]

Robust database offers efficient search capabilities.

Software-based evidence management systems are information management systems that store crucial case information associated with P&E. Many standalone products provide database functionalities that enable searching and sorting. Each evidence entry creates a permanent record or file containing critical fields for pertinent case information.[9] Officers can add documents, notes, or photographs related to evidence, or link multiple items of evidence to one file.

Database functionality enables user-friendly search capabilities across fields or combinations of fields. For example, the software can help users search for items—such as recovered firearms of a certain caliber—or evidence associated with a specific suspect. Some software may allow users to build and save custom queries so they can track specific types of evidence or complete an in-depth P&E room search as part of an investigation. Custom queries allow agencies to procure the data needed for their reports and metrics.

The IAPE's Professional Standards Board suggests including the following fields in a property record:

- Case number
- Control number or tracking number
- Date and time received
- Booking officer name and badge/serial number
- Names: Suspect, Victim, Owner, and/or Finder
- Addresses: Suspect, Victim, Owner, and/or Finder
- Telephone number of investigating officer
- Type: Evidence, Found Property, Safekeeping, and For Destruction
- Crime code-statute number
- Crime type—e.g., robbery, homicide, assault.
- Crime class—e.g., felony, misdemeanor, infraction
- Category—drugs
- Description of item—e.g., make, model, serial number
- Storage location
- Purge review date.

8. Anecdotal evidence from multiple interviewees who indicated that an evidence management system assisted in their accreditation process.
9. International Association of Property and Evidence. Professional Standards (2016). https://home.iape.org/resourcesPages/IAPE_Downloads/IAPE_Resources/IAPE-Professional-Standards/IAPE_Stands_2_6-2016.pdf.

Disposition protocols enable more efficient purging or disposition.

Software-based evidence management systems empower law enforcement agencies to be more proactive with the final disposition of evidence by freeing up needed space in the P&E room. These products automatically track the statute of limitations for evidence, which is input during initial logging. P&E personnel can periodically run a report that checks for evidence in the P&E room and identifies candidates for disposition. Most systems can also notify officers or investigators about evidence pertaining to their cases that is eligible for purging or disposition. This process efficiently and accurately manages items compared to the traditional method of manually checking each piece of evidence in a box or shelf to determine if the evidence has reached its statute of limitations. With P&E rooms having limited space, these disposition processes allow agencies to dispose of evidence more frequently, freeing up valuable space for evidence in new cases.

The Evidence Management Institute's Standards and Best Practices document states that "ideally, evidence management operations should dispose of evidence items at a 1:1 ratio to intake items annually. . . .disposition rates lower than 0.75:1 (disposal to intake) ratios can create long-term systematic storage and sustainability operations for evidence management operations."[10]

Although revising legislation and resources can make this difficult, evidence management software can help proactively clear out evidence, enabling P&E personnel to regain more usable space.

Data aggregation capabilities help generate and communicate insights to support decisions and actions.

These systems act as an intelligence database, containing standard and detailed information about all items in a P&E room and enabling agencies to have a real-time status of inventories. **In addition to the software's ability to query fields or combinations of fields in the database, the program can aggregate these data to produce actionable insights regarding the P&E room's status.** Law enforcement agencies can glean insights about the P&E room's storage capacity, and dashboards can create data visualizations—such as available space of a P&E room over time and counts for a particular evidence type—to communicate key insights to agency leadership. For example, these products can help agencies understand whether their P&E room space is diminishing, confirm the amount of currency stays the same from seizure to deposit, and track that items were transferred or sold at auction.

Some reports that the systems can generate include

- Number of items in the P&E room
- Categories of items in the room
- Disposition notification notices
- Discrepancy reports
- Audit reports
- Owner notification letters
- Property reports
- Chain of custody reports
- Auction manifests

These insights help inform internal and external stakeholders about key issues needing attention; trends for evidence items; and resource needs, such as additional personnel or equipment (e.g., additional safes for firearms). In addition to high-level reports, P&E personnel may generate chain of custody or property reports related to a select group of evidence items. These software programs **automate processes to generate and disseminate these reports**, significantly reducing staff time needed to gather and format this information.

10. Evidence Management Institute Standards and Best Practices: Chapter 10: Evidence Retention and Disposition. Evidence Management Institute, https://evidencemanagement.com/resources/emi-standards-and-best-practices/chapter-10-evidence-retention-and-disposition/

Interoperability enhances communication between systems and stakeholders.

The products discussed in this report are independent from other agency information management systems, which include laboratory information management systems (LIMS) and external court systems. Some systems, such as an RMS, may offer integrated evidence management modules. Many software-based evidence management systems offer the ability to interface with another information system for the seamless flow of evidence from collection to analysis to the court room. Interfacing requires significant effort from not only the law enforcement agency but the evidence management vendor and other information systems as well. Interfacing can lead law enforcement agencies to maximize efficiency with managing and processing evidence, but this approach may not be practical for every agency to pursue because of setup, integration, and maintenance requirements.

Software vendors have designed ways for their products to quickly communicate with other information systems and decrease time needed to manually complete functions. Some systems allow officers to **"pre-log" evidence in the field using mobile devices and applications**, giving P&E personnel the ability to create ready-made barcodes for evidence during intake. Some products support mobile scanners to allow evidence to be barcoded and tracked as it is collected in real-time at the crime scene. The mobile functionality requires an additional initial investment of a mobile device or scanner; however, there is a potential for time-savings in evidence entry that may outweigh this investment.

We are in the process of interfacing our system with the records software used by court systems to give us the outcomes of cases connected to pieces of evidence in our property and evidence room.

Kara Bennick
Property/Evidence Supervisor
Greenville County DPS
Greenville, South Carolina

Law Enforcement INSIGHT

PRODUCT LANDSCAPE

The Criminal Justice Testing and Evaluation Consortium (CJTEC) consulted property and evidence (P&E) experts and software-based evidence management system end users to learn about key vendors that law enforcement agencies around the country are using. The products outlined in this landscape report represent a cross section of standalone software products. Agencies must assess whether a standalone system or another type of information system—such as modules of records management systems (RMS) or laboratory information management systems (LIMS)—can best meet their needs. **Figures 6** and **7** highlight select product features, pricing, and technical specifications for ten key software vendors.

Vendors that responded to CJTEC's request for information include:

- Erin Technology
- FileOnQ
- JusticeTrax
- The PERCS Index
- Progressive Microtechnology
- QueTel

Vendors of note that did not respond to CJTEC's request for information include:

- Active Control of Evidence
- Foray Technologies
- PD Evidence
- Porter Lee Corporation

Additionally, the following tables and company profiles do not represent a complete list of vendors. We have more product details for vendors who responded to our request for information (RFI). Including a product or company in this report does not represent the National Institute of Justice's (NIJ's) or CJTEC's recommendation, endorsement, or validation of product claims.

Software-based Evidence Management Systems

Figure 6: The six software-based evidence management vendors profiled in detail offer different features, pricing, and technical specifications. These vendors responded to CJTEC requests for information.

	Vendor	Erin Technology	FileOnQ	JusticeTrax	The PERCS Index	Progressive Microtechnology	QueTel
	Product Name	Erin7	EvidenceOnQ	ChainLinx	Evidence Manager	PMI Evidence Tracker	Evidence TraQ
Product Features	Interfacing Capabilities	Full set of APIs to communicate with JSON scripts for cases, items, and persons data	Can create data integration and data-sharing interfaces with several major RMS products on the market	Includes a full suite of APIs that can be used for data exchange with third-party applications Provides standards-based RESTful definitions for its APIs	PowerShell scripts to allow for batch integration with external systems	Import—delimited data files and data directly from an SQL database	Interface with Active Directory, CAD/RMS, and digital-evidence software
	Configurable Offerings	Core modules (cases, items, persons), module names, and all data field entries can be configured	Fully configurable home screen, allowing users to change appearance, terminology, field values and functionality Agencies can modify functionality and fields added, repositioned, or renamed	Barcode labels can be customized in system administration Barcode labels can be of varying sizes and content	Configuration options can be user-driven and can be set globally or individually per device Examples include extended logging, enhanced/reduced reports, and user access privileges	Can configure field headers and drop-down menus, move field locations, hide unused fields	Field and screen configuration options
	Evidence Pre-log Offering	Pending release in 2020	WebView pre-logging or data entry of evidence records using a laptop, iPad, or mobile data terminal (MDT) at incident scenes, search warrant locations, etc.	Yes	Evidence can be pre-logged at the crime scene and at the station by officers before it is registered by the evidence custodian	Full case, evidence data, and tagging labels can be logged into the system upon recovery	N/A
	Custom Query Support	Yes	Yes	Yes	No	Yes	Yes
	Dashboard Offering	Yes	Yes	Yes	No	Yes	Yes
	Mobile Capabilities	A full mobile app will be available in the last half of 2020 that will allow for entering of evidence and other important remote functions in the field or at the crime scene	MobileOnQ uses a handheld, Zebra™ Touch Computer device with a built-in scanner and signature pad that permits barcode scanning for transferring items, performing inventories, and capturing digital signatures at locations without a PC, such as off-site storage facilities, property release points, crime labs, and courts	ChainLinx users with remote network access and permissions can operate on mobile devices with an appropriate web browser	Unitech Portable Data terminals have built in scanners that allow for mobile batch scanning and subsequent uploading Field module is installed onto a laptop and can be used in the field without an internet connection	Mobile capabilities are limited to auditing	Signature captures Inventories completed Signed transfers Storage moves Evidence accepted

Figure 6 (continued)

	Vendor	Erin Technology	FileOnQ	JusticeTrax	The PERCS Index	Progressive Microtechnology	QueTel
	Product Name	Erin7	EvidenceOnQ	ChainLinx	Evidence Manager	PMI Evidence Tracker	Evidence TraQ
Pricing and Procurement	Fixed Base Costs (See key below)	$	$$$	$$$	$–$$	$$	$$
	Base Model Offerings	All inclusive	Complete barcode system for managing evidence items, marking locations, and designating actions and statuses; peripheral hardware in quantities and models as required by and specified by the user-agency	Includes evidence intake, chain-of-custody tracking, evidence reconciliation, evidence disposition, task tracking, statistical and administrative reporting, and more	Includes software, network and field module, label printer, laser scanner, 10,000 labels	Includes Evidence & Asset software, barcode scanner and printer, labels and ribbons, and 1-year technical support plus free shipping in the United States	Includes intake, tracking, and looking up evidence; adding attachments to case files; barcode integration; user dashboard; property room inventory; transferring of evidence; robust querying options; track/print chain of custody; print case reports; property reports; evidence listing
	Regular Maintenance Costs	No	Yes	Yes	Yes	Yes	Yes
	Per License Costs	Yes	Yes	Yes	No	No	Yes
	Additional Module Offerings	All modules included	Electronic signature function eDocs digital evidence repository MobileOnQ portable solution WebView module Notification and workflow DigitalOnQ Active directory portal integration	All modules included	Digital signature module Digital photo module Digital drug scale module Physical inventory module Flowchart module* Drug report module* *(*currently Canadian version only; U.S. version planned for future release)*	All modules included	Submission rejection module Overdue reminder module Document attachment module Global replace module Boxing module Paperless disposition module System-generated court orders
	Included Hardware	Zebra barcode label printers, compatible barcode scanners, and ribbons/labels are available at additional cost	Barcode scanner(s), barcode label printer(s) with labels and ribbons	ChainLinx does not include hardware	Label printer, laser scanner, 10,000 labels (and supported ribbons)	Barcode printer, scanner, labels, ribbon	N/A
Technical Specifications	Compatible Barcode Scanners	Any 1D or 2D barcode scanner	Zebra LI4278 Bluetooth (wireless) scanner, Zebra LS2208 cable-attached scanner, Zebra MC65 and MC67 portable computer scanners, Zebra TC70x touch computer with barcode scanner, CipherLab A8001RSC00005 mobile scanner	JusticeTrax recommends Motorola LI-2208. Other scanners that read 3of9 code may also be compatible	Any keyboard wedge type scanner, but we recommend and supply various models from Honeywell	Most scanners	Zebra Tethered Scanner LS2208 Kit Zebra Bluetooth Scanner LI4278 Kit Panasonic Toughpad FZ-N1 Kit Android Device—licensed as barcode scanner/signature pad

Base Unit Cost	Cost Scale (U.S. Dollars)
$	0–5,000
$$	5,001–10,000
$$$	10,001+

Figure 6 (continued)

	Vendor	Erin Technology	FileOnQ	JusticeTrax	The PERCS Index	Progressive Microtechnology	QueTel
	Product Name	Erin7	EvidenceOnQ	ChainLinx	Evidence Manager	PMI Evidence Tracker	Evidence TraQ
Technical Specifications (Continued)	Other Compatible Hardware	N/A	Topaz T-LBK755-SE attached signature pad Topaz T-LBK755SE-BTB1-R wireless Bluetooth signature pad Cummins-Allison JetScan IFX i100	Zebra ZD620T thermal transfer bar code printer Other printers that support ZPL language for bar codes may also be compatible	Digital signature pad, digital scale, portable data terminal	N/A	iOS- and Android-compatible mobile app, Zebra Desktop Barcode Printer ZD420t, Sato Industrial Barcode Scanner CL4NX Wacom Signature Pad—STU-530
	Operating System	Windows 10, SQL server	Windows 7, Windows 8.0, Windows 8.1, Windows 10	MS Windows 8.1 or higher	Windows XP or greater. Fully compatible with all versions of Windows 10. Windows server 2008 or greater. Linux support in future release	Windows 10, .NET Framework 3.5 SP1	Windows
	Application Type	Web-based	Desktop and web-based (WebView) applications. Desktop required for system administration and full evidence control; WebView can be used by users accessing via laptop, iPad, or MDT in a setting outside the property room.	Web-based. ChainLinx has been optimized for use in Microsoft Edge and Microsoft Internet Explorer 11 or higher	Currently desktop-based; web-based application will be in future releases	Server client configuration	Web-based
	Cloud-based Application?	Yes	Currently in development for future releases	ChainLinx was designed as an on-premises application. However, it may be hosted in a private cloud or in Microsoft Azure Government	Windows Server 2012 or greater hosted in the cloud. Future release will be offered as software as a service.	No	Yes (Optional)
	Server Requirements	Windows Server 2008 or above, IIS 8 or above, SQL Server 2014	Windows Server 2003, 2008 Family, 2012 Family, Windows Server 2016, Windows Server 2019	Microsoft Server Standard Edition or Higher (minimum 2016) .NET 4.7.2 or higher .NET Core (if installing ChainLinx Portal) JTHub Domain Functional Level—2008 R2 or higher	A server is not required but recommended if used in networked mode.	SQLexpress 2012 or 2017 running on any Windows OS (10 and up)	SQL 2014 Standard Edition (Minimum), SQL 2017 or SQL 2019 (Recommended) IIS Server
	Frequency of Updates	Every 2 months and as needed for technical glitches	Major version upgrades every 3 years; minor version upgrades released every 18 months	One or more times per year	Bimonthly	One to two times per year	Twice per year
	Other Systems Required	Sigweb.exe if using Topaz electronic signature pads, driver for bypassing converting labels to PDFs for printing	MobileOnQ: Windows Mobile Device Center (on PC with docking station). DigitalOnQ: 4 GB RAM (8 GB recommended), .NET Framework 4.5	MS Windows Server 2016 or higher and MS SQL 2016 or higher	N/A	N/A	Modern web browser (e.g., Chrome, Edge)

Figure 6 (continued)

	Vendor	Erin Technology	FileOnQ	JusticeTrax	The PERCS Index	Progressive Microtechnology	QueTel
	Product Name	Erin7	EvidenceOnQ	ChainLinx	Evidence Manager	PMI Evidence Tracker	Evidence TraQ
Support	Technical Support	Online help desk, product support	1 year of maintenance and support includes unlimited telephone and online product support, free in-version software upgrades, bug fixes, and unlimited training via telephone and web-conference	Unlimited technical support through Zendesk, phone, or email; all software patches/updates, all enhancements to the software, and all upgrades to the software	Unlimited toll-free telephone, remote access, email support. Access to the customer support area via website and Amazon Web Services site	U.S.-based in-house support	Telephone and online support via email available.
	Training	Unlimited online product training and on-site training	On-site and personalized live web sessions. Refresher training via web conferences through annual maintenance and support contract	Onsite and remote training. Post implementation training is available in person or via JT Academy, which can be accessed through JusticeTrax.com	Remote access training but on-site training can be arranged if necessary	Basic overview included with software purchase—additional training time can be purchased	On-site or online training offered as well as retraining for new hires.

Figure 7: The four software-based evidence management vendors were identified in CJTEC's market search but these companies did not respond to the request for information. Table content is based on secondary research sources.

	Vendor	Active Control of Evidence	Foray Technologies	PDEvidence	Porter Lee Corporation
	Product Name	Active Control of Evidence	Property & Evidence	Evidence Management	BEAST Evidence Management System
Product Features	Interfacing Capabilities	Custom interfaces to communicate with: RMS, CAD, LIMS	Not specified, check with vendor	Interface with Pennsylvania cNET project API can be used to interface with RMS and LIMS	Integrates with Porter Lee Corporation's LIMS system Integration with existing CAD/RMS
	Configurable Offerings	NCIC tables are fully configurable. Reports are also configurable.	Configurable data screens, fields, and reports	Configurable fields for data entry, mobile scanning of barcodes, configurable audit options	Fields for data entry in the system can be configured
	Evidence Pre-log Offering	Not specified, check with vendor	Yes	Not specified, check with vendor	Not specified, check with vendor
	Custom Query Support	Yes	Not specified, check with vendor	Not specified, check with vendor	Not specified, check with vendor
	Dashboard Offering	Not specified, check with vendor	Not specified, check with vendor	Yes	Yes, with Police Module add-on
	Mobile Capabilities	Mobile inventory management module allows auditing using any mobile device.	Not specified, check with vendor	Mobile scanning of barcodes offered	Property/evidence can be entered into the BEAST using either stand-alone laptops/tablet PCs or live using a secure VPN. Barcodes can be generated on demand and digital photos linked at the scene.
Pricing and Procurement	Additional Module Offerings	Electronic disposition orders module Mobile inventory manager module Crime scene module Digital signature module Officer drop module	Not specified, check with vendor	Not specified, check with vendor	Police Module (allows integration with the Porter Lee Corporation Remote Inventory Software and LIMS)

Figure 7 (continued)

	Vendor	Active Control of Evidence	Foray Technologies	PDEvidence	Porter Lee Corporation
	Product Name	Active Control of Evidence	Property & Evidence	Evidence Management	BEAST Evidence Management System
Technical Specifications	Compatible Barcode Scanners	ACE can interface with most barcode scanner and printer combinations	Not specified, check with vendor	A 2D bar code scanner like Zebra DS4308 or DS8178	Uses matrix barcodes and conventional barcodes: SYMBOL LS2208, DS2200 Series Handheld Imagers, ZEBRA LI4278, DS2200 Series Handheld Imagers, DS8100 Series Handheld Imagers, DS3608-SR/DS3678-SR Ultra-Rugged Scanner
	Other Compatible Hardware	Not specified, check with vendor	Not specified, check with vendor	Barcode printer: Brother QL-720NW, QL-820NWB Digital Signature Pad: Topaz USB Signature Pad	Barcode printers: ZD420 4-Inch Desktop Printers, ZT200 Series Industrial Printers Signature pads: SignatureGem LCD 1x5 T-L(BK)462 Wireless Signature Pad
	Operating System	Not specified, check with vendor	Not specified, check with vendor	Windows, Mac, and Linux compatible. Safari, Chrome, Firefox, and Microsoft Edge browsers supported. Microsoft Internet Explorer may not be compatible.	Windows 7 or higher
	Application Type	Desktop and web version options (web version works best with some modules)	Web-based	Web-based	Client server or web
	Cloud-based Application?	Yes, with module add-ons	Yes	Yes	Yes
	Server Requirements	Compatible with all versions of Microsoft SQL Server from 2005 forward.	Not specified, check with vendor	Runs on Amazon Web Services (AWS) GovCloud	Not specified, check with vendor
Support	Technical Support	Technical support offered by phone, email, trouble ticket, and chat.	Remote support offered depending on products purchased from Foray Technologies.	Email and web-based technical support	Data conversion services available for your existing electronic system
	Training	Onsite training webinars, refresher trainings, and new expansion trainings.	In-person training offered and tutorials are available online.	Free web-based training	Not specified, check with vendor

ADOPTION GUIDANCE

Implementing a software-based evidence management system requires time and money to successfully execute. This process may lead to changes in resources, workflow, responsibilities, and internal and external stakeholder communication. When deciding whether these systems align with operational and budgetary needs, agencies should remember to do the following:

- Plan for time and resource investment for software implementation.
- Consider how implementation may lead to workflow changes throughout the agency and the criminal justice system.
- Identify which stakeholders need buy-in for implementing a software system.
- Understand the value (and potential limits) of configurability over customizability for commercial-off-the-shelf (COTS) products.
- Consider the implications of integrated and interfacing systems.
- Understand the security limitations of these evidence management systems and consider additional safeguards.

Plan for time and resource investment for software implementation.

Evidence management software products are not "plug and play" systems. To realize the system's full benefits, agencies must invest money and labor hours to research, plan for, and implement the system. Agencies should set aside resources to complete the following actions:

1. **Select and set up the system to align with organization needs.** Despite some general best practices and requirements for accreditation, there are no industry-accepted standards for creating and managing a property and evidence (P&E) room; each agency likely has different needs, resources, and ways of managing P&E. This means that there will be some necessary planning and setup on the front end to make sure that the software aligns with your agency's structure and available storage space and communicates with the appropriate information and data systems. The more variation between the software product and your current data systems, the more difficult data integration will be from these two systems. Agencies that do not appropriately plan on how to design and develop a system may not realize key software benefits.

Within property and evidence rooms, evidence for a case is never uniform, nor is it stored in a box or envelope in a standard method. This is a direct result of a lack of industry-approved property and evidence handling standards.

NIST Report, RFID Technology in Forensic Evidence Management

Law Enforcement INSIGHT

2. **Be sure to retroactively log existing inventory into the current software-based evidence management system.** With this software, P&E personnel and leadership may be able to access data in ways that they have never done so before. For example, the software can identify trends in evidence intake (e.g., the total amount of money on hand), mine the data for important searches, and monitor when items of evidence may be ready for disposition. Agencies' ability to benefit from these features depends on their efforts to retroactively log all legacy data in the system. Many agencies have tens of thousands of pieces of evidence in their custody; this process will require a significant effort that takes slow incorporation over months. Some items of evidence recorded on paper-based methods, from cases such as homicides, have extended statutes of limitations and may remain in the custody of a P&E room many years after the evidence was collected; this evidence should be included for easy tracking. Agencies that have used previous older and outdated software programs may be able to import some of their data with vendor help. Due to the effort required to retroactively log items, many agencies use a phased approach to first set up the system with the help of the software vendor and log current inventory as time allows.

   Agencies should consider investing in resources to move their entire inventory to an automated system or two separate automated systems for past and future P&E. One P&E expert explained that this data transfer required the agency to hire 16 additional personnel to migrate hundreds of thousands of items into the new evidence management system over a year's time.

3. **Maintain the software.** These software products may occasionally require assistance by either an internal or external IT team to address technical issues, especially during periodic updates. This may include maintenance contracts with the vendor and additional agency labor.

4. **Train system users.** Stakeholders such as officers and prosecutors actively use the software for evidence management purposes. With effective training, these stakeholders can successfully use the system, diagnose minor system issues, and update programming without needing vendor support. Agencies should factor in the time and cost of training into the total implementation costs.

   Software vendors employ different cost models for their products—including all-inclusive upfront software licenses, price per concurrent user, software licenses with varying amounts of storage space, and systems that offer add-on modules for an additional cost.

   Depending on agency size and the number of items in the P&E room, some offerings may be more cost effective than others. Exhibit 6 provides an overview of the sample costs and cost models for each vendor that responded to CJTEC's RFI.

Federal, state, or potentially private grant funding may be a great option to cover costs related to software implementation. Alternative funding sources include the following:

- Bureau of Justice Assistance—Edward Byrne Memorial Justice Assistance Grant (JAG) Program JAG funds awarded to a state under the fiscal year 2020 program may be used to hire additional personnel and/or purchase equipment, supplies, contractual support, training, technical assistance, and information systems for criminal justice.

- Many state criminal justice agencies offer grant opportunities to local law enforcement to target pressing needs within their jurisdiction. Check with the applicable state criminal justice agency or state attorney's office and inquire about available grants.

- There is a large pool of corporate funders, private foundations, and community giving programs that may be offering grant opportunities to support technology improvement needs in law enforcement agencies. Law enforcement trade associations may have grants available to support equipment and training needs. The Foundation Center is also a great source for finding which community foundation(s) represent your area. PoliceGrantsHelp provides grant assistance that includes several options for departments seeking help in securing grant funding.

Self-assessment questions for considering a software-based evidence management system:

- What resources and budget are available to P&E room staff to stand up and maintain this system?
- How is your agency's P&E room currently set up?
- How might your agency leverage cost sharing mechanisms with other agencies for these systems?
- Does the vendor offer training opportunities for the system?
- Does the cost model (e.g., year to year, base cost) work for your agency?
- What level of support do you need from the vendor?
- How do you intend to import existing P&E data into the new system?

Use Profile:

The Greenville County Department of Public Safety (DPS) has invested resources to fully recognize EvidenceOnQ's ability to streamline information flow and improve key workflow bottlenecks.

Kara Bennick is the Property and Evidence Supervisor at the Greenville County DPS in South Carolina.

The Forensic Division operates as a county agency, supporting all law enforcement agencies in Greenville County. Supporting several agencies results in a high volume of evidence, which led the Forensic Division to implement a software-based evidence management system. Members of the P&E team within the Forensic Division spent 4 years researching different products and ultimately chose FileOnQ's EvidenceOnQ for their evidence management needs. In the 10 years since installing EvidenceOnQ, Greenville County DPS has configured the software to better serve their agency and their unique role in law enforcement. Implementing a system has offered the following benefits:

- **Interfacing capabilities:** Greenville County DPS is working with the local court systems to interface EvidenceOnQ with their electronic records software. This enables Greenville County DPS to directly access court case outcomes, a key bottleneck in the evidence disposition process in South Carolina. Following the completion of interfacing EvidenceOnQ with the court system, the Greenville County DPS is planning to expand interfacing capabilities with their Forensic Division's laboratory information management system (LIMS) to keep track of laboratory services for evidence.
- **Configurability:** EvidenceOnQ's data entry screens have been configured to mirror the P&E sheets previously used by the agency. Most of these configurations have been performed in-house by Greenville County DPS.
- **Pre-logging evidence capabilities:** The P&E room works with officers to pre-log evidence before it comes to the facility. A dedicated account is used to log information about the evidence in a "pre-log queue," which enables P&E staff to record the data and generate barcodes at the P&E room for the items. When an officer arrives with evidence, P&E personnel attach the barcodes and scan them into the system. This approach has reduced average time of evidence logging at the agency from 2–3 hours down to roughly 20 minutes, saving time for P&E personnel and officers. This function is especially useful as outside agencies may use Greenville's P&E room to store evidence.

While logging new evidence coming into Greenville County DPS, Ms. Bennick and her team have retroactively logged all the evidence stored within their P&E room. Currently, the P&E team has over 430,000 pieces of evidence logged into EvidenceOnQ. With this amount of evidence, generating reports efficiently and streamlining workflows became crucial for Ms. Bennick and her team. Ms. Bennick advised that agencies will likely have to configure COTS systems and need to be willing to work with vendors to fit their needs.

Key Lessons Learned

- Integrating evidence management systems with other information management systems can make evidence intake more efficient.
- Configuring a system is beneficial for tailoring the system to a jurisdiction's specific needs but can be a costly and time-consuming process.

This system has evolved since we have purchased it. It has allowed us to grow as an agency and has grown right alongside with us.

Kara Bennick
Property/Evidence Supervisor
Greenville County DPS

Law Enforcement INSIGHT

Consider how implementation may lead to workflow changes throughout the agency and the criminal justice system.

These software systems are not intended to replace P&E personnel; instead, the software streamlines key tasks and improves P&E task efficiency. As a result, the workflows of P&E personnel change, trickling down to change the everyday roles of key stakeholders inside and outside of the agency. Law enforcement officers, for example, see some of the biggest shifts. The automated software can allow officers to check in and label P&E on their own, even beyond typical P&E technician hours. With mobile scanning technology, an officer can now pre-log evidence while still in the field. P&E personnel are no longer gatekeepers of information; through access portals, officers (and court systems stakeholders) can quickly look up information they need.

Workflow shifts related to software implementation may lead some individuals to resist adopting the new technology. Agencies should consider ease of use when choosing the appropriate software for their needs and realize the importance of upfront training—not only for P&E staff but also for the officers using the software. To better understand how officers and community members use the software, many end users mentioned that they visited agencies to gain insights about software functionality and about how the agency has set up their P&E room for using the software. Another consideration agencies should make prior to system implementation is the physical layout of the P&E room. Implementing security restrictions and workflow processes using evidence management software may necessitate improved layout and methods of storing physical evidence, such as designated areas for high-value evidence items.

Self-assessment questions for considering a software-based evidence management system:

- How will implementing the system impact workflows? Will implementing these systems require the P&E room to be reorganized?
- How amenable are P&E staff and other stakeholders (e.g., law enforcement officers) to adopting new technologies?

Law Enforcement INSIGHT

We were able to think about how to reconfigure our space for our needs after seeing a system in use by other agencies. For example, setting up a separate gun safe and a walk-in freezer for high density storage; we were able to glean these storage solutions from other agencies and found them beneficial.

Lieutenant for a large police department

Use Profile:

Evidence TraQ implementation has changed evidence-related roles and responsibilities for different stakeholders in a West Coast agency.

Interviewee is the Evidence Supervisor at a West Coast Police Agency.

This medium-sized jurisdiction has over 100 sworn police officers. The agency's decision to implement a software-based evidence management system stemmed from the desire for a more robust evidence management system than what the current records management system (RMS) module provided. To choose an evidence management product, the P&E team researched various commercial offerings and visited agencies using the products. Ultimately, the agency chose to implement QueTel's Evidence TraQ. Implementing this system has offered the following benefits, which have saved time and improved evidence management for the agency:

- **Improved chain of custody:** Initially, the agency had planned to utilize the RMS's P&E module. Plans changed because the module allowed users to change information concerning evidence with no record of these updates. The evidence supervisor and their team realized they needed a system with a secure chain of custody that tracked each update made to a piece of evidence. Evidence TraQ tracks changes and ultimately prevents evidence manipulation.

- **Streamlined workflows:** Prior to implementing Evidence TraQ, the agency managed their evidence using a hybrid paper-based system. After collecting evidence, officers brought paper files to P&E personnel; these files contained evidence-related information. P&E staff entered the data from the files into the RMS evidence management module. Retroactively logging the evidence data was a time-consuming task, using much of the technician's time during the day. With the implementation of Evidence TraQ, officers began entering data into the system for the pieces of evidence they collected, which automatically generated barcodes in the system. Having officers pre-log evidence freed up time for the P&E team and streamlined the evidence logging process. The P&E room supervisor credited Evidence TraQ's ease of use for getting officer buy-in for this transition.

- **Automated notification for evidence disposition:** Evidence TraQ can automatically send notifications as part of the evidence disposition process, enabling efficient removal of evidence to free up space in the P&E room. During the logging process, users can enter information about the statute of limitations for each piece of evidence. Once the statute of limitations has been reached, the system automatically emails the corresponding officer to review the case and decide if the evidence should be disposed or retained. This allows disposition of evidence to occur on a rolling basis and helps prevent the retention of evidence that is no longer needed.

In the 21 years since implementing Evidence TraQ, the P&E team has looked at other products but still believes Evidence TraQ is the best available software for their needs. This can be attributed to the software changing to fit their needs and containing advanced features that are uncommon in other products. For agencies that are on the fence about the necessity of these systems, the P&E room supervisor emphasized the consequences of mishandling evidence, such as breaking a case and creating legal issues for law enforcement agencies.

Key Lessons Learned

- Standalone systems can offer a more complete chain of custody compared to RMS evidence management modules.
- The ease of use of these systems can be crucial for officer buy-in and for streamlining workflows.

Identify which stakeholders need buy-in for implementing a software system.

When choosing a system that meets the P&E room's needs, decision-makers must consider the roles of stakeholders who use the system. These stakeholders include P&E personnel; law enforcement leaders and officers; forensic crime laboratory professionals; and individuals from court systems, auction houses, and the public. To successfully develop a system that meets all stakeholders' needs, agencies must understand workflow, all requirements of end users, and IT resources—plus the agencies must identify opportunities and challenges of interfacing systems both within and outside the P&E room.

Self-assessment questions for considering a software-based evidence management system:

- What engagement with criminal justice community stakeholders is needed to perform critical tasks, such as disposition of evidence? How do these stakeholders usually communicate and how might this system improve information flow?
- What stakeholders need to provide buy-in before purchasing and implementing the system?

Use Profile:

Implementing Tracker has helped the Omaha Police Department (OPD) work efficiently with criminal justice stakeholders and streamline workflows.[11]

Lieutenant Staci Witkowski supervises the Property and Evidence Department at the OPD in Nebraska.

The OPD is Nebraska's largest law enforcement agency, with 902 sworn officers. OPD purchased Tracker's first-generation evidence management system in 2013, upgrading from a paper-based system. The OPD police chief sought out a barcode-based system to improve efficiency of logging and managing evidence, and met with end users of multiple products before purchasing Tracker. Implementation has offered the following benefits:

- **Stakeholder engagement with access controls:** OPD includes the county attorney and city prosecutors as secondary users to Tracker's SAFE™, allowing access to view and request items and information to be brought to court. These users can also update the status of evidence when evidence is in their custody. This system is web-based, enabling all users to access this information off-site. Providing limited functionality to these stakeholders reduces workload for both prosecutors and OPD's detectives. Prior to using SAFE, prosecutors had to review multiple paper reports to locate evidence needed for their court cases.
- **Query and report generation:** Two attractive features of SAFE are the query and report generating functionalities. SAFE has a dashboard function that allows users to save customized queries that will update automatically as evidence is logged into the software. The query functions allow users in the P&E room to track trends in the evidence agencies collect and monitor changes in inventory, such as how many items are received or disposed of monthly. OPD also uses this function to generate reports that allow for rapid review of stored P&E for disposition purposes.

The P&E team has continued to use SAFE as their agency grows. Lieutenant Witkowski mentioned that OPD is not currently using some software functionality, such as automatic disposition of evidence. Much of the team's focus has been on retroactively logging all evidence in the P&E room. Currently, OPD has completed 95% of the retroactive evidence logging and plans to take advantage of SAFE's more advanced features once this effort is complete. For agencies that are in the market for new software, Lieutenant Witkowski recommends visiting agencies that currently use that software before making a software purchase.

Key Lessons Learned

- Granting software access to prosecutors and other stakeholders provides a more efficient way to manage evidence throughout the chain of custody.
- Using effective dashboard and query functionality can help agencies monitor crime trends and generate useful reports for supervisors.
- Investing time and resources into logging existing evidence in the system is essential to enjoying the software's full functionality, such as streamlined disposition procedures.

The query and dashboard functions on SAFE can serve as great justification for additional manpower in the property and evidence room.

Staci Witkowski
Lieutenant
OPD

Law Enforcement INSIGHT

11. Tracker declined to provide any product information for this landscape report.

Understand the value (and potential limits) of configurability over customizability.

Software-based systems can be modified in two ways: the software may be (1) customized—meaning that upon request, the vendor can modify the software by updating its code or (2) configured—meaning that the vendor can program the software so that end users can easily implement workflow changes. Configurable systems may offer a more efficient and quicker solution for agencies to apply but may require some additional training to operate. Although changing and adding specific evidence categories through customizations may seem beneficial, agencies must be cautioned against making frequent updates, such as adding new database fields. Additionally, P&E personnel rely on dropdown menus instead of free-form text fields for data entry. Frequent changes to categories and use of free-form text fields compromise the system's ability to aggregate and report trends, thereby negatively impacting data integrity. Customized software products may also make regular system updates and maintenance more difficult due to the hard-coded changes, requiring more time and external support to address.

Challenges of Configurable Systems

P&E personnel regularly encounter challenges with agencies that have not identified unique and specific evidence categories (e.g., sexual assault kits) for ease of organizing. As a result, agencies have not been able to track these sexual assault kits since they were classified in many different ways for impounding.

Self-assessment questions for considering a software-based evidence management system:

- How does the system allow you to enter data (e.g., dropdown menus, text boxes)?
- What can you change as an administrator, and what kind of training is needed to do so?
- How does the system balance flexibility with rigidity?

Consider the implications of integrated and interfacing systems.

Through the nature of their work, law enforcement agencies must gather a large amount of data; these data are often electronically managed through multiple software products. Introducing an additional database-related system, such as an evidence management system, can create more work for agencies by necessitating data entry into different locations. This challenge can be addressed by two key methods: (1) agencies may look for product suites that have multiple products integrated into one offering, such as an RMS with computer-aided dispatch and P&E modules or (2) agencies could purchase standalone software products and work with vendors to have the software solutions interface with each other. In both scenarios, data from one system automatically populates into the other; for example, case data from the RMS can be populated in the relevant fields in the evidence management system, saving time and possible transposition errors.

Choosing an integrated system may seem like a simple and cost-effective option for agencies, but many of these evidence modules lack critical functionalities that enable secure evidence management.

For example, some systems may not record all changes to the records, creating an incomplete audit trail. Although these modules share a lot of the same functionality as standalone software systems, such as tracking evidence location through barcodes, many lack key value-adding functionality. Before proceeding with an evidence module in a product suite, agencies should ensure that these products have the necessary elements for effectively managing data.

Standalone products can interface with RMS or court systems. This setup requires engagement from vendors of the product and other interfacing system to link up through approaches—such as an application program interface, which takes time and money to develop. Maintaining interfacing abilities as both software products are regularly updated will require skillsets and man hours. Interfacing these systems may be more secure than integrated systems because these data are linked from multiple servers instead of the same source. Relying on data from multiple servers introduces a security measure in cyberattacks, so that the agency cannot be entirely shut down.

Most standalone systems have some sort of web-based portal or access control capabilities for stakeholders to view and request data. This feature enables prosecutors to review documents they need and saves time by allowing officers to pre-log evidence. Agencies should consider their needs for system communication and understand if integration, interfacing, or use of inherent access controls is the appropriate level of communication for their needs.

Self-assessment questions for considering a software-based evidence management system:

- Can the system be configured to fit your agency's needs? What resources are required for system configuration?
- Will software customization be required? What are the additional costs associated with customization? What changes, if any, can you make to your processes to avoid software customizations?
- How important is integration/interfacing with other information systems (e.g., LIMS, RMS) to you? Consider the value of interfacing, integration, and use of portals.

Use Profile:

The Henry County Police Department appreciates the security measures and effective search capabilities of ERIN, while understanding the limitations of integrated systems.

Lieutenant Keith Shumate works in the Criminal Investigations Unit at Henry County PD in Georgia.

The Henry County Police Department manages roughly 80,000 pieces of evidence in its P&E room. Lieutenant Shumate oversaw the P&E room as a sergeant and its adoption of ERIN, a cost-effective option that fit Henry County's needs. He learned about ERIN and other standalone systems through an International Association for Property and Evidence (IAPE) training session. Key benefits include:

- **Enhanced search capabilities and compatibility with multi-agency investigations:** While the police department was choosing and implementing a new system, the agency merged with two other agencies. The system would need to access P&E data from various sources. Implementing ERIN has made it easy to track down information on a case that may have multiple original agencies investigating with multiple case numbers. Two departments can keep their databases separate, and a technician can search both databases through one query. This functionality also provides value for the agency because they participate in and serve as the evidence custodian for the Flint Circuit Drug Task Force. The task force includes multiple city and county agencies, as well as the District Attorney's Office. Compatibility between systems helped make the case for other local agencies to adopt ERIN.
- **Access control capabilities:** Controlling access to certain software functionality prevents users from intentionally or unintentionally making changes to the system, while still allowing streamlined communication among all stakeholders. For example, Henry County provides limited access for prosecutors to view certain documents in ERIN. Lieutenant Shumate found that some RMS modules and other types of software lacked this key access control feature, which was a primary decision point for acquiring ERIN.

Lieutenant Shumate sees the utility in evidence management modules of integrated systems, such as evidence modules on RMS software products; however, he cautions that systems with a single shared server may be vulnerable in the event of catastrophic data loss or a cyberattack. Interfacing systems that utilize more than one server to house data add an extra layer of security. The Henry County Police Department servers recently experienced a cyberattack, which led to significant downtime and data loss over the agency's integrated RMS. Since data in ERIN were stored on a different server, the P&E room did not experience any downtime.

Key Lessons Learned

- Software-based evidence management systems that connect multiple stakeholders can improve search capabilities in multimedia investigations.
- Access control capabilities of software systems help guard against changes that may compromise evidence-related information.
- Interfacing (rather than integrating) systems may mitigate cybersecurity risks.

We wanted a standalone system, and ERIN was ideal for our needs at the time, when we were taking in multiple departments.

Lieutenant Keith Shumate
Henry County Police Department

Law Enforcement INSIGHT

Understand the security limitations of these evidence management systems and consider additional safeguards.

Although software-based systems can streamline the tracking and managing of evidence and decrease workloads of multiple stakeholders in a law enforcement agency, these efficiencies should not come at the expense of evidence integrity. Using a software system to track evidence can help accurately document movement of evidence, but software is not a foolproof method to eliminate all internal or external risks to evidence being compromised. Software products allow P&E personnel to identify potential and real tampering of evidence in an efficient manner (compared to a paper-based system); this efficiency potentially decreases the risk of evidence being compromised but does not eliminate the risk entirely. Therefore, law enforcement agencies typically implement additional safeguards—including video surveillance, limited access, usage of high-security vaults for high-risk items, and a real-time record of entry into the P&E room—to offer increased protection against security breaches.

Self-assessment questions for considering a software-based evidence management system:

- How will the system be utilized to maintain evidence integrity?
- What external safeguards will be implemented to maintain security?
- Which stakeholders will have access to the P&E room? How will access be monitored?
- Will any changes to evidence-related information be apparent in an audit trail?
- Can you easily determine who has interacted with evidence?
- Can you control which users have access to different elements in the systems?

Use Profile:

Porter Lee's BEAST system has improved evidence security, management, and chain of custody for the South Tucson Police Department (STPD).

Richard Munoz serves as the Property and Evidence Technician at STPD in Arizona.

The STPD is a small jurisdiction that covers approximately 1.2 square miles and has 15 sworn officers. Having previously served as a police chief, Richard Munoz now serves in a civilian role in the P&E room. Mr. Munoz was brought in to improve security measures and organize the P&E room. Years before he was hired, an internal security breach occurred; as a result of this breach, a search began for a software-based evidence management system. STPD has a close relationship with the much larger Tucson Police Department (TPD) due to the proximity of the organizations. TPD's use of Porter Lee's BEAST software for P&E management strongly influenced STPD to choose BEAST. Key benefits include:

- **Secure chain of custody and evidence:** STPD implemented an evidence-based software system to maintain a robust chain of custody and to document the movement of evidence so that evidence-related thefts or suspicious activity can be quickly identified. Although this system ultimately cannot prevent illegal activities from occurring inside or outside of the P&E room, BEAST has enabled the STPD to improve their organization and tracking abilities—which has benefited the entire organization.
- **Improved search capabilities:** BEAST can search by a number of categories relevant to P&E operations. For example, BEAST can easily search for specific evidence by the case number, barcode number, or person's name associated with the evidence (such as the suspect or responding officer). STPD's BEAST computer is set up specifically for searching and returning civilian property (stolen or found), decreasing the time needed to track down this information.
- **Enabling mobile workflows:** The software can be loaded on a computer or tablet to pre-log evidence at the crime scene, which enables P&E room staff to quickly intake evidence. This approach offers flexibility to officers while making sure they can log evidence as quickly as possible, even when the P&E room may not be open.

Mr. Munoz has continued to use and upgrade BEAST to better fit STPD's needs. Their close relationship with TPD has helped improve the use of BEAST over time and helped Mr. Munoz solve issues by learning about the software's capabilities. For example, after consulting with TPD, STPD purchased an upgraded barcode scanner and laptop that can be utilized wirelessly with improved functionality. Mr. Munoz mentioned that STPD is not using BEAST's full capabilities, largely due to the small size of the jurisdiction.

Key Lessons Learned

- Implementation of a software-based evidence management system is an effective measure to track evidence and help maintain security of items in the P&E room.
- These systems may improve the efficiency of logging and searching for evidence.
- Software functionality can address needs in jurisdictions of all sizes.
- Updating technology and training is crucial to keeping the P&E room running smoothly.

Mismanagement of a property and evidence room can lead to huge consequences for police chiefs. BEAST helps prevent this from happening.

Richard Munoz
Property and Evidence Technician
STPD

Law Enforcement INSIGHT

COMPANY PROFILES

Erin Technology

1.855.558.9746

www.erintechnology.com/

Product: ERIN7
Additional Products: Quartermaster (QMS) System
Location: Harrison, New York
Years in business: 9

Erin Technology serves over 100 customers in organizations throughout the world. Most customers are municipal, county, state, or federal law enforcement agencies, but their customers also include private and public entities. The company's evidence management system, ERIN7, was developed from consultations with police officers and sheriff deputies looking for an affordable system that was dedicated to law enforcement needs.

Description of Software: ERIN7 is a flexible solution for tracking physical and digital evidence—providing a complete chain of custody, audit support, and barcode tracking. It is offered as a full software as a service (i.e., SAAS) system, available either hosted (i.e., on the cloud) or onsite. A dashboard has user-configurable widgets to display any set of data, plus many other previously configured widgets from which the user may choose. The barcode system is automated to manage and track any (1) type of item, digital media, and video and (2) associated persons.

Chain of Custody: The chain of custody record extends from the recovery location to the laboratory, court room, and to final disposition. Every transfer (i.e., change of status) of an item is logged in the chain of custody. All user changes are also logged and include any updated records with the before and after data.

Evidence Disposition: Dispositions are handled in a similar manner to a transfer or change of status—except that once an item is disposed, it is displayed as such and is no longer available for other actions. Although users with different roles have multiple ways to review items within a case or to dispose of items directly (e.g., destroying them or returning them to the owner), only a user with administrator rights may execute an actual disposition. An automated disposition process is built into the software to send notifications about the evidence being up for review. An administrator can either complete the disposition or assign it to the recovery or responsible officer.

Reports: The system has many pre-built reports, and there is no limitation on the number of reports that ERIN7 can generate. The Report Builder helps users build any report. More knowledgeable customers with HTML experience will also be able to modify or create their own unique custom reports. ERIN Technology will also assist with any forms or reports.

Access Control Measures: ERIN7 has role-based levels of access control to which users are assigned. These roles are completely defined by the customer's administration.

Revenue Model: Base software cost depends on total users; price depends on model of service (e.g., hosted or onsite); per-license cost based on number of concurrent users.



FileOnQ

1.800.603.6802 ext. 114
www.fileonq.com/

Product: EvidenceOnQ
Additional Products: DigitalOnQ, QuartermasterOnQ, Critical Incident, CaseOnQ
Location: Seattle, Washington
Years in business: 9

FileOnQ offers a suite of software products used by various industries for critical records management. FileOnQ serves approximately 350 public safety agencies that use its suite of software products. The agencies include virtually all sizes and categories of public safety—federal, state, city/town, county, higher education institutions, military, tribal, courts and prosecutors' offices, and fire service.

Description of Software: EvidenceOnQ—which is a complete commercial off-the-shelf, barcode-based solution for managing evidence. The EvidenceOnQ system includes a fully configurable data entry screen, which is designed completely by the user-agency for appearance, data fields, field names, field values, and functionality. Police and sheriff departments, prosecutors, and courts have the ability to access, view, manage, and track evidence and associated documents, media, and more using the EvidenceOnQ desktop client and WebView browser-based applications.

Chain of Custody: The EvidenceOnQ system assigns its own unique barcode values to items and locations. The system automatically logs date-time stamps for all transactions and stores them in a permanent and unalterable audit trail. The audit trail shows the user login and name attributed to transfers and edits, the date and time of transactions, original data and any replacement data, and the IP address of the device used to make the change.

Evidence Disposition: The EvidenceOnQ system has a built-in retention module that allows the agency to define its own retention classifications and associated review periods. The system automatically assigns the appropriate retention classification to each property and evidence (P&E) record by using a feature that matches the agency's own offense/incident categories with their respective retention classification.

Reports: All EvidenceOnQ reports are generated after performing any type of EvidenceOnQ query, which retrieves the specific evidence data needed to populate the report. Once the query returns the desired data, the system provides numerous built-in standard reports such as the Query Report. This document is produced in a standard spreadsheet format that includes rows and columns of data. EvidenceOnQ can also generate custom-tailored forms, referred to as Standard-Template Custom Reports. FileOnQ uses the Crystal Reports report creation software application to create these documents. The desired reports can be included in an agency's initial EvidenceOnQ system purchase or acquired as a future add-on purchase. The added report functionality consists of popular report formats—including Property Report, Owner Notification Letter, Chain of Custody Report, Evidence Disposition Request to Officer, Property List, Auction Manifest, and Check-Out Receipt with Digital Signature.

Access Control Measures: An EvidenceOnQ system administrator can create users and user groups and can manage permissions (i.e., grant or deny system access and related functionality) by individual users or user groups. System policies can also be set for password expiration, minimum password length/strong passwords, and number of failed login attempts allowed. Record-level permissions can be established to control viewing of certain records and/or transferring certain records.

Auditing: Any field updates are stored as part of the edited record's unalterable audit trail—which shows the old field value, the new field value, the timestamp of the update, the FileOnQ and Windows login user ID, and the computer name (and IP address) from which the change was made.

Revenue Model: Cost is based on several factors that are unique to the agency. Number of users, current inventory, and selection of features determine the overall software cost. Customers may choose from (1) a base cost with an annual license and maintenance agreement or (2) an implementation cost with a set monthly cost to cover upgrades and support.





JusticeTrax
1.480.222.8919
justicetrax.com/

Product: ChainLinx
Additional Products: LIMS-plus, LIMS-plus DNA, Consumables Inventory Management System (CIMS)
Location: Mesa, Arizona
Years in business: 26

JusticeTrax has 24 staff members and offers a suite of information management products. Regional crime scene response agencies, sheriff's offices, and state police agencies currently use ChainLinx.

Description of Software: ChainLinx is a full-featured application capable of being deployed in any P&E room, no matter the size. ChainLinx includes evidence intake, chain of custody tracking, evidence reconciliation, evidence disposition, task tracking, statistical/administrative reporting, and more.

Chain of Custody: ChainLinx maintains a detailed "z-order" chain of custody that goes beyond simply logging transfer histories. Using a secure process that involves a barcode and personal identification number, ChainLinx records the current and target locations for each complete, two-sided transfer. This transfer method ensures that a true chain of custody is maintained and prevents inadvertent changes of a single transfer history that could invalidate the continuity of evidence.

Evidence Disposition: ChainLinx offers multiple tools to handle evidence disposition. When entering or editing a P&E item, users can set "intended disposition," which a customer can configure. Once entered, the values can be used to query or report this status to process all items for which tasks have been completed. Additionally, ChainLinx allows for the configuration of a property or evidence processing service, which would include disposition processing. Within the service, personnel can relate items that require disposition and document all information required in each step of the disposition—such as release to owner, release to court, deposit in bank account, and destroyed. Individual customers can configure these values. Disposition services can be performed as batch updates by processing each item that meets specific criteria.

Reports: JusticeTrax ChainLinx uses industry standard SAP Crystal Reports for reporting functionality. Templates are designed using Crystal Reports, uploaded into ChainLinx for user or P&E unit-wide access, and executed by the application. The templates extract data from the database; perform the required sorting, grouping, and formatting; and then present the report in a viewer. From the viewer, the report can be printed or exported to other formats (e.g., PDF or Excel). Report templates designed in Crystal Reports can be run against (1) any data point recorded within ChainLinx and (2) other datasets available to the system. ChainLinx administrators can easily configure or tailor reports of all types to meet the P&E unit's needs. Once created, these reports can be easily added to the interface for authorized users. Users are not required to have a Crystal Reports software license to produce the reports.

Access Control Measures: JusticeTrax ChainLinx offers one of the most comprehensive role-based security systems in the industry. Using granular access permissions and security roles defined by the P&E room, each user's access can be precisely controlled. P&E rooms can define an unlimited number of roles and each user can have multiple assigned roles, which allows for complex filtering. The JusticeTrax role-based security system provides greater flexibility and lower maintenance as new staff members are added. JusticeTrax ChainLinx also provides login security features—including configuration for the number of failed login attempts, password strength settings, and auto-logoff—for added protection.

Auditing: JusticeTrax ChainLinx includes an audit trail feature that records all revisions (i.e., inserting, editing, or deleting information) for each data element in the audit trail history table. Users with appropriate access permissions can view the audit trail for any designated data element. Printable audit trail reports can be configured using SAP Crystal Reports.

Revenue Model: License-based and annual maintenance

PERCS.COM

The PERCS Index

1.866.461.4669

percs.com

Product: Evidence Manager
Additional Products: Quarter Master, Equipment Tracker, File Tracker, and Asset Manager
Location: Surrey, British Columbia, Canada
Years in business: 22

The PERCS Index has been providing barcode-based database programs since the late 1980s. The company serves over 400 customers—primarily U.S. and Canadian law enforcement agencies, as well as municipal and county agencies—with its suite of software products. The PERCS Index is currently working to extend its digital evidence capabilities by leveraging government cloud/hybrid cloud platforms from Amazon Web Services and Microsoft Azure.

Description of Software: Evidence Manager was designed to automate the control of evidence using barcode technology.

Chain of Custody: The Field module can be used to capture evidence at the crime scene and start the chain of custody. The Network module allows officers to log the initial movement of exhibits from crime scene to temporary lockers. The Main module allows one or more evidence custodians to manage/control all movements of exhibits in and out of the P&E room by using digital signatures for each movement until disposition. All of these movements/dispositions are available for real-time viewing or printing on the Chain of Custody Report.

Evidence Disposition: The PERCS Index offers the Diary Date protocol, which allows exhibits to be tagged for disposal for a specific event (e.g., drug burn), and a report can be generated to retrieve a list of all exhibits for that diary date. Upon disposition, the information is logged and remains in the database indefinitely. Depending on an agency's retention and disposition policy, the application allows for archiving exhibits and deleting them from the archives if/when necessary.

Reports: Many standard and enhanced reports are available—including Standard Property, Enhanced Property (1625), Chain of Custody, Flowchart, Physical Inventory (Discrepancy), Custom Letters with Mail Merge, 25+ Search Listing, customized reporting capabilities using Crystal Reports, and other compliant reporting tools.

Access Control Measures: More than 30 access areas within the system, spread across 3 modules that can be customized for each user.

Auditing: The audit trail is managed externally using Data Mart and PowerShell scripts; data are loaded at various intervals to generate the audit trail.

Revenue Model: Base software cost, with the option for add-on modules, and an annual maintenance cost after the first year.

Progressive Microtechnology

1.904.797.1050
pmievidencetracker.com

Product: PMI Evidence Tracker™
Additional Products: None
Location: St. Augustine, Florida
Years in business: 35

Progressive Microtechnology offers PMI Evidence Tracker as an affordable P&E software for smaller and medium-sized law enforcement agencies. The company serves more than 500 customers, all of which are law enforcement agencies and organizations that need to manage and track evidence.

Description of Software: PMI Evidence Tracker includes evidence and asset software, barcode scanners and printers, labels, and ribbons—along with a year of unlimited support that includes free software updates and a site license. Users can (1) customize the evidence input screen and evidence and asset labels and (2) create their own reports.

Chain of Custody: Scan items in and out individually or in a batch.

Evidence Disposition: None specified

Reports: Chain of Custody; Cases Out; Inactive Cases; Cash, Drug, Gun, and Biological Detail; Activity; and Unlimited Custom Reports

Access Control Measures: Uses an encrypted SQL database with individual usernames and passwords

Auditing: Audits can be done randomly, full or by bin location. With the Audit Software module, users can select the evidence type and the location of any checked-out evidence will be identified.

Revenue Model: Tiered software offerings that depend on the number of licenses needed and an audit software add-on; requires annual maintenance support agreement.

QueTel
quetel.com/

Product: Evidence TraQ
Additional Products: Digital Evidence Management System, Lab Management System, Police Mobile App, Training Management System, Impound System, Quartermaster Software, Asset System, Sexual Assault Kit Tracking System
Location: St. Louis, Missouri
Years in business: 38

QueTel, an Omnigo company, has been providing evidence management software for over 30 years. Their solutions have continued to evolve to incorporate new technology and to meet customers' changing needs.

Description of Software: Fully browser-based software, accessible with any browser (i.e., Chrome/Windows/Firefox), allowing agencies to go paperless. Solution can be in a hosted environment or on-premises. Completely customizable to meet the needs of the department while keeping an unimpeachable chain of custody on every item. TraQ is a permission-driven solution; these permissions are configured and assigned by your system administration. Robust query capabilities allow users to run customizable reports and queries off every field in the system, which can be exported. Unlimited people can be associated to items or cases. The system records every movement of items and by whom the movement was completed. Evidence TraQ's dashboard provides daily / annual / monthly statistical data from within the software. The system enables users to attach photos of the evidence items to each item, and email reports from within the system, with unlimited owner notifications. Evidence TraQ offers built in "To Do" alerts when an item has the potential of being disposed based upon the state's statute of limitation associated with the crime charges. The system can capture digital signatures that will be stored electronically with the item and generate overdue reminders to property room personnel. Its Electronic Investigator Disposition Module alerts the property room if items are okay to dispose.

Chain of Custody: Includes a full chain of custody that cannot be modified.

Evidence Disposition: Evidence TraQ includes a fully electronic case disposition.

Reports: Robust queries and Ad Hoc Report Writer allow users to search and report on any field in the system.

Access Control Measures: Customers designate system administrators, and those administrators define user permissions. Evidence TraQ is a fully rights-driven system.

Auditing: Evidence TraQ has built-in audit capabilities.

Revenue Model: Evidence TraQ annual pricing is based on the number of sworn officers and the specific features required by the department. Professional services are charged as one-time fees.

Other vendors that might have software-based evidence management systems of interest include:[12]

Company: Active Control of Evidence
Product: Active Control of Evidence (a division of Software Techniques, Inc)
Location: Hardy, Virginia
http://www.evidencecontrol.com/

Company: Foray Technologies
Product: Property & Evidence
Location: San Diego, California
https://foray.com/solutions/pne.php

Company: PDEVIDENCE
Product: PDEVIDENCE EMS™
Location: Harrisburg, Pennsylvania
https://www.pdevidence.com/

Company: Porter Lee Corporation
Product: Crime Fighter BEAST
Location: Schaumburg, Illinois
http://www.porterlee.com/ems.html

12. CJTEC requested information from these vendors but was unable to obtain detailed product information in time for publication.

Request for Information Text on Federal Register

CJTEC posted a Request for Information on the Federal Register to obtain product information of software-based evidence management systems published in the report.

Physical and Digital Evidence Management Products Market Survey (Posted 5/15/2020–6/29/2020)

AGENCY: National Institute of Justice (NIJ), Justice.

ACTION: Notice of request for information.

SUMMARY: The National Institute of Justice (NIJ) is soliciting information in upcoming Criminal Justice Testing and Evaluation Consortium (CJTEC) reports that will provide a landscape study of physical and digital management software products. The report will identify software and web-based technologies that are commercially available to manage physical evidence and/or digital evidence, such as photos or videos. This document will assist law enforcement agencies in making informed decisions for purchasing and implementing software systems to manage and track physical evidence and/or digital evidence.

DATES: Emailed responses must be received (and mailed responses postmarked) by June 29, 2020.

ADDRESSES: Responses to this request may be submitted electronically by email to Emily Vernon at evernon@rti.org with the subject line "Property and Evidence Management Software Technologies Federal Register Response." Responses may also be sent by mail to the following address: Criminal Justice Testing and Evaluation Consortium (CJTEC), ATTN: Emily Vernon, Property and Evidence Management Software Technologies Federal Register Response, RTI International, P.O. Box 12194, 3040 E Cornwallis Road, Research Triangle Park, NC 27709-2194.

FOR FURTHER INFORMATION CONTACT: For more information on this market survey, please contact Rebecca Shute (CJTEC) by telephone at 724.544.4129 or rshute@rti.org. For more information on the NIJ CJTEC, visit https://nij.ojp.gov/funding/awards/2018-75-cx-k003 and view the description, or contact Steven Schuetz (NIJ) by telephone at 202.514.7663 or at steven.schuetz@usdoj.gov. Please note that these are not toll-free telephone numbers.

SUPPLEMENTARY INFORMATION:

Information sought: Specific product and company information for software products that help law enforcement manage evidence in their property and evidence rooms and/or digital evidence. An independent response should be submitted for each product that respondents would like CJTEC to consider in their landscape report. NIJ encourages respondents to provide information in common file formats, such as Microsoft Word, PDF, or plain text. Each response should include contact information.

Usage: Information provided in response to this request may be published in a landscape study on physical and digital evidence management software products.

Information categories:

1. Vendor Information
    a. Full name of company
    b. Contact information of technical contact for software products
    c. Website URL
    d. Years the company has been in business
    e. Number and types of customers served (e.g., municipal, county, or state agencies)
    f. Picture or photograph of software product(s)
    g. Vendor logo
    h. Description of product(s) (300 words or less)
2. Product Information
    a. Software Offering(s):
        i. Please describe your suite of software products, including but not limited to: PEMS, laboratory information management systems, digital evidence management systems, sexual assault kit tracking, etc.
        ii. Is your PEMS a module of an existing system or a standalone software?
        iii. Do you have a digital evidence management system (DEMS) software offering?
        iv. Is your DEMS software offering a module of an existing system or a standalone system?
    b. Technical Specifications of Evidence Management Offering
        i. What are the key differentiators of your software compared to competitors' products?
        ii. How does your software manage evidence disposition? What is the evidence disposition protocol?
        iii. Does your software have a query functionality to search and categorize evidence?
        iv. Does your software have a dashboard function? If so, please describe functionalities.
        v. Can your software integrate with other information management systems (i.e., integration with Records Management System (RMS) or Laboratory Information Management System (LIMS))? Please list relevant systems and methods of integration (e.g., APIs)
        vi. What features are customizable? (Customizability refers to changing the software programming, which may be done by the vendor or an in-house IT professional).
        vii. What features are configurable? (Configurability refers to changing fields within the setup of the system without changing the programming, which is done by the end user).
        viii. What data transfer capabilities does your software offer?
        ix. Is there an upper limit to the amount of data (e.g., information about discrete pieces of evidence) that can be stored in this program? If so, please describe these parameters.
        x. Setup of system
            1. What is the base model and functionalities offered by the company?
            2. What additional modules are available for purchase?
        xi. What kind of mobile capabilities does your program have (e.g., mobile scanner or uploading capabilities).
        xii. What access control measures does your product provide between users of the system?
        xiii. What kind of audit trail capabilities does your product offer?
    c. Technical Specifications of PEMS Offering
        i. What barcode scanners are compatible with your product?
        ii. What complementary hardware accessories are available with this software? Please note all available hardware accessories, and whether they come standard or at additional cost.

d. Technical Specifications of DEMS Offering
    i. What types of files can be uploaded and stored on the DEMS product or module?
    ii. What data and metadata are stored in the DEMS?
    iii. What editing or enhancement capabilities does the software have?
    iv. Are original files preserved when content is edited (e.g., cropped photos)
    v. Does the product ensure authenticity of the content?
    vi. Are there photo comparison capabilities offered by the software?
    vii. Can users download content to physical hard copies (e.g., external drives)?
    viii. Does your software offer digital signature capabilities?
e. Operating Information
    i. Operating system required for use
    ii. Type of application (e.g., web-based or desktop application)
    iii. Does your software have a cloud-based application?
    iv. Servers and other IT requirements
    v. Technical support offered
    vi. Training offered
    vii. Frequency of software updates
    viii. Last known software release date
    ix. Other systems required for use (e.g., hardware requirements or supporting software packages)
f. Financial Information (check all that apply for your software and provide estimate costs if applicable. Please indicate what the cost model—e.g., per user, bulk pricing). Please note that we will not share specific pricing, but allow users to roughly compare across pricing ranges.
    i. Base software cost (_____ USD)
    ii. Up-front license cost (_____ USD)
    iii. Per-user license cost (_____ USD)
    iv. Additional module costs (_____ USD)
    v. Maintenance costs (_____ USD)
    vi. IT/Troubleshooting costs (_____ USD)
    vii. Training costs (_____ USD)

3. Use Cases
    a. Approximate number of products sold to law enforcement (if available)
    b. Names and contact information (phone and email) for end users who have implemented the product in casework (if available)