

BIG DATA REPUBLIC

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Big Data & Crime Investigation



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Fiction's greatest detectives, guys like Sherlock Holmes, Sam Spade, and Hercule Poirot, all came from different backgrounds. Yet they also shared an important attribute: sharp analytical minds and an almost uncanny ability to knit tiny snippets of evidence into ironclad cases.

Few real-life crime investigators possess the case-solving abilities of a fictional master-sleuth. Yet the gap is rapidly narrowing as big data-fueled analytical tools help investigators worldwide by analyzing past events, detecting trends and patterns, and pinpointing commonalities and correlations. Such powerful technology allows crime fighters in communities of all sizes to work faster and smarter by supplying crucial connections that would have previously taken days, weeks, or months to assemble.



(Source: Rapyobro [Own work] [CC-BY-SA-3.0](#))

Real-world tools

The latest big data tools available to law enforcement organizations provide data collection and analysis capabilities originally designed for use by the military and intelligence agencies. Textron Systems' [Impact](#) software, for example, enables police analysts to collect and study text, imagery, signals intelligence data, and various other types of information. The product also provides text extraction, case development, and collaboration tools that are designed to promote efficiency by eliminating time-consuming and redundant tasks. Federated and fuzzy search capabilities enable users to simultaneously reach multiple databases with

a single query, delivering relevant results even on incomplete or misspelled keywords.

IBM is also a major player in the law enforcement big data market, offering agencies its [SPSS predictive analytics software](#) and [i2 COPLINK](#) database application, which consolidates policing data, provides data analytics and visualization tools, centralizes multiple data stores, aids collaboration, and helps generate tactical leads.

The Charleston Police Department in South Carolina, for instance, is [using IBM tools](#) to help its approximately 400 police officers to more accurately evaluate and forecast crime patterns. According to IBM, the department is using predictive analytics software to better allocate its resources and identify

criminal hot spots to prevent crime and increase public safety.

Morphotrak is another company offering a line of big data-oriented law enforcement software tools, including a [biometric identification system](#) that integrates fingerprints, palmprints, face images, signatures, descriptive, and other data. Morphotrak also offers an archive service that allows investigators to quickly search all relevant image records and associated case documents. The system, which permits data interoperability, uses Oracle Database 11g to support both clustering and private clouds.

Tight budgets

While a growing number of police organizations would like to be able to use sophisticated big data tools to help solve crimes, their plans are often hampered by funding shortfalls, the result of deficit-fighting government austerity programs. That's a shame, since big data analytics provides significant long-term savings by speeding investigations, getting more criminals off of the streets, and allowing scarce police resources to be allocated to other pressing tasks.

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