Information Builders helps organizations transform data into business value. Our business intelligence, integration, and data integrity solutions enable smarter decision-making, strengthen customer relationships, improve performance, and drive growth.

**Organization**
Founded in 1917, Michigan State Police is a law enforcement agency with more than 2,900 employees and 1,500 officers. Its mission is to provide the highest-quality law enforcement and public safety-services throughout Michigan.

**Michigan State Police**

**The Challenge**
Ease access to vital criminal, incident, and activity data from a variety of disparate sources, and disseminate it to patrol officers, detectives, investigators, commanders, and other headquarters staff.

**The Strategy**
Create dynamic dashboards, advanced search functionality, and analytical maps that give authorized users a simple and uniform way to access and analyze crime information.

**The Results**
Better tools to track crime statistics, monitor trends, and manage progress towards key metrics. The department can work smarter and faster and reap the maximum reward from its BI and analytics investments.

**Information Builders Solution**
Law Enforcement Analytics, WebFOCUS, Magnify, Omni-Gen, and Professional Services.

Michigan State Police Unifies Data and Amplifies View Into Criminal Activity

**Integration, Integrity, and Intelligence Technologies**
Deliver Vital Crime Information From Multiple Agencies

The Michigan State Police (MSP) greatly improved critical law enforcement processes to ensure the accuracy and reliability of its data with Information Builders’ WebFOCUS business intelligence (BI) and analytics platform.

MSP’s data management platform extends information to 142 local law enforcement agencies, facilitating collaboration across the state of Michigan. According to Captain David Kelly, commander of the Intelligence Operations Division at the Michigan State Police, it’s the first state agency in the nation to have a unified platform that combines data integration, data quality, and master data management (MDM). “And we pulled it together in a fraction of the time that such MDM projects typically require,” says Kelly.

WebFOCUS serves as the analytical foundation for dashboards that give the colonel, executive council, commanders, and other headquarters staff instant snapshots of the areas they oversee. Users monitor what’s going on with their troopers, review crime rates by type, determine where traffic accidents are happening, and much more. Hundreds of people use the system each day to review crime data, trends, and statistics, as well as to track key metrics. A new master data hub will make integrated, cleansed data available from multiple agencies, providing the department not only with historic insight, but also with predictive analytics capabilities that help deter crimes and traffic accidents.
Founded in 1917, MSP consists of approximately 1,500 law enforcement professionals, all of whom depend on current information to protect citizens across the state. The police force uses Information Builders technology to provide knowledgeable and responsive services to Michigan citizens, while supporting law enforcement and promoting safety across the state. By rolling out comprehensive search capabilities, mobile dashboards, and an integrated data set based on golden records, MSP is increasing operational efficiency and pushing real-time insights down to the trooper level.

**Improving Access to Disparate Crime Data**

MSP crime analysts began this comprehensive project by making crime and public safety data available to the staff, and then expanded the system to track key performance metrics such as crime clearance, crime lab throughput, trooper activity, patrolling of high-volume crime zones, and web investigations. They used Information Builders’ integration technology to gather and consolidate the information, which includes crime details obtained by local police agencies across the state and data entered into mobile computers by troopers in the field. Crime reports, trooper activity logs, and traffic crash data is collected primarily from Oracle-based sources and then moved into a repository that feeds the dashboard.

Having centralized analytics has improved visibility into department performance and given officers the functionality they need to respond knowledgeable to incidents and make informed decisions. By tracking trooper activity, MSP’s leadership team balances the time that troopers spend on patrol against the time they spend handling routine reporting. The dashboard also tracks investigations and logs crime and safety statistics.

Buoyed by the success of the dashboard, MSP used Information Builders’ Magnify technology to create the MI-Intel Search tool, enabling troopers and detectives to query all the major MSP data sources by person, address, and many other variables. Officers sort through result categories and drill into pertinent information when responding to service calls, or during an investigation.

**Tapping Into Master Data Management Capabilities**

While MI-Intel Search has empowered users to query across multiple data sources, without a consistent and accurate way to match people across systems, as well as to cleanse and enhance the data, the results were sometimes missing key data points. “With a diversity of data coming from multiple real-time sources and databases, our analysts and detectives couldn’t directly access all the data,” explains Kelly. “Leveraging Omni-Gen™ enables MSP to integrate, cleanse, and master data from multiple sources.”

Omni-Gen enables developers to quickly configure data quality templates rather than build a data model from scratch, accelerating the process of creating consistent or “golden” records.

“Omni-Gen enforces consistency among dissimilar data sources,” confirms Deepinder Uppal, assistant division director of the Criminal Justice Information Center for the Michigan State Police. “Officers quickly sift through consolidated records to find a person, address, or other mastered data entity.”

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**Captain David Kelly**

Commander, Intelligence Operations Division

**Michigan State Police**
Previously, if there was a typo in a name, social security number, or driver’s license, all the records about a person might not be found, which meant that important information, such as concealed weapons permits and domestic violence reports, were not available when patrol officers needed them. Now, Omni-Gen performs near real-time cleansing and geo-coding to consolidate data and display it through mobile dashboards. A statewide analytics app pulls in GPS data to help officers chart drug seizure activities, display crash locations, monitor search-and-rescue activities, and depict other crucial events on dynamic digital maps. The mastering process ensures that all addresses and names are consistent, maximizing information security while minimizing resource requirements and maintenance costs.

**Improving Data Quality and Integrating Big Data**

Information Builders compared MSP’s outstanding warrants database with the Social Security Administration’s master death file. This analysis revealed that in some instances MSP wasted resources chasing deceased people. It also demonstrated the power of combining third-party data with department data to improve accuracy and reduce the workload for MSP staff. For example, MSP can integrate weather information from NOAA to foresee traffic problems.

In the future, MSP plans to use Information Builders’ iWay Big Data Integrator (iBDI) to pull in social media data, classified Homeland Security sources, and hash databases for digital forensics such as electronic fingerprints. Data scientists and analysts previously used high-level tools to interface with these types of data sources, but (iBDI) gives them a drag-and-drop environment for easily adding them to a Hadoop database.

“Information Builders has been a great partner in building these systems,” says Kelly. “We rely on them for advice, technical support, and project management, and their expertise and resources have been invaluable to us. They understand our data. They understand our processes. They understand our budget limitations. And they are adept at solving problems within our environment.”

**A Uniform View of Crime Statistics and Trends**

MSP now has consolidated data for BI that is integrated, cleansed, mastered, and enhanced, including criminal justice data sources, intelligence data, social media data, and other external sources. MSP is the first agency within the state of Michigan to complete the process of creating such extensive master records.

The State’s MDM initiative has yielded significant improvements in areas such as resource deployment and investigative analytics. For example, the statewide Schedule Anywhere program helps determine where to deploy troopers to minimize traffic crashes and criminal incidents. Automatic alerts enhance situational awareness for troopers, such as when they are dispatched to a location where someone has an outstanding felony warrant.

The inclusion of cyber data models allows MSP to detect online threats from cyber criminals by organizing terabytes of diverse data into a common linked data model. The department has partnered with the Michigan Department of Technology, Management, and Budget to handle the investigative aspects of protecting the state’s law enforcement networks.
As a result of these intensive data management and analytics activities, MSP officers and commanders will solve investigations more quickly and proactively. MSP plans to create citizen-facing information systems that will allow people to study crime trends by location and neighborhood.

“As a statewide fusion center, we're chartered with increasing communication between federal, state, and local agencies,” says Kelly. “Fusion centers in all 50 states involve the Department of Homeland Security, the FBI, and the state police, reinforcing the need for information sharing across agencies. Having access to accurate and consistent criminal, incident, and activity data from a variety of sources helps combat crime and improve public safety.”