

Police forces across Lower Saxony crack down on crime



Fast, automated analysis of patterns in crime and traffic enable accurately targeted police operations

Smart is...

Using relevant information about criminal offences and traffic accidents, automated report-generation and interactive analysis to support operational and strategic police decision-making.

Police forces in the German federal state of Lower Saxony wanted to fight crime more effectively and improve traffic flows by making better use of information from a wide range of sources. A new solution now gives officers individually compiled reports about specific locations and types of crimes in near real-time, supported by a unified, consistent event processing and evaluation system. Detectives interactively analyze the data to gain new insights – for example, identifying areas that have particularly high crime rates – which enables them to target their operations more effectively.

Behind the scenes of visible police work, officers are constantly working on complex analyses and assessments of situations, which must be constantly updated to reflect changing circumstances. Officers use the insights gained from these analyses, combined with their own understanding of criminal behavior, to support strategic and tactical decision-making in their everyday work. Operational success depends on being able to provide the right information to key decision-makers as quickly as possible, helping the police better protect citizens' security.

Speed is of the essence, as early detection of undesirable developments plays a key role in enabling fast, targeted police action – either to prevent crimes or to start investigating as quickly as possible. Systems that can support officers in their investigative work by facilitating research into patterns in crime can therefore improve police effectiveness.

The Central Police Directorate (German: Zentrale Polizeidirektion), which manages the operations of around 22,000 police officers across Lower Saxony, wanted to combat crime more effectively. To unlock the insights needed to optimize the activities of its local forces, the organization worked with Steria Mummert Consulting, an IBM Business Partner, to develop a comprehensive event processing and evaluation system. Thanks to this new analytics solution, police forces can quickly identify crime hotspots, track down criminals more easily, and base their strategic and policy decisions on more reliable information.



Business benefits

- Around 22,000 officers across all police stations can obtain a near-real-time overview of all police-related events at the click of a mouse
 - A geographic information system (GIS) and visual displays of where incidents take place enable intuitive detection of crime and traffic hotspots
 - Officers save time and effort by accessing all information (ranging from PDF reports to interactive analyses) via a single portal
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Central analytics solution overcomes information fragmentation

In the past, police in Lower Saxony stored information about suspects, incidents, victims of crime and traffic accidents in several systems. Officers could not gain an overview of this information without consulting multiple sources of data – a time-consuming task.

Since 2003, the police force has been using business intelligence solutions to simplify information access. A data warehouse and several different business intelligence tools have been in place since 2005. However, over the last ten years, the technical demands for analyzing and evaluating incidents have risen considerably, and technological advances have opened doors to a new era of business intelligence.

For these reasons, the Lower Saxony police decided to develop a centralized analytics system. Based on cutting-edge business intelligence technology, the system would support operational and strategic decision-making at all levels of the organization. The project team compared solutions from vendors across Europe against a broad set of criteria, and ultimately selected IBM® Cognos® Business Intelligence.

The Central Police Directorate, which provides IT services to police forces across Lower Saxony, worked with Steria Mummert Consulting to develop a cutting-edge system based on the Cognos solution. IBM assigned highly experienced Cognos consultants to provide technical assistance particularly in the development phase, which played a key role in the project's success.

Smarter Cities

Fighting crime more effectively using intelligent analytics



Instrumented



Interconnected



Intelligent

Data concerning the roughly 550,000 criminal offenses and 200,000 traffic accidents that occur in Lower Saxony each year is collected in a data warehouse, ready for analysis and evaluation.

Around 22,000 police officers across Lower Saxony can generate customized reports that provide an overview of incidents and geographical locations of crimes at the touch of a button.

The solution simplifies the analysis of changes in the levels of traffic accidents and crime, helps police officers identify hotspots even faster, and ultimately supports operational and strategic decisions with reliable information.



Solution components

Software

- IBM® Cognos® Business Intelligence 10.2

Services

- IBM Business Analytics Software Services

IBM Business Partner

- Steria Mummert Consulting
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“The new solution, which is based on IBM Cognos Business Intelligence, provides users with approximately 250 general and customized management reports and analyses, which can be interactively investigated at the click of a mouse.”

— Christiana Berg, Chief of Police, Central Police Directorate of Lower Saxony

Quantum leap in business intelligence

With the new solution, which is known as NIVADIS, up-to-date information from multiple police operational systems is automatically sent to a central data warehouse three times per day. There, the information is stored for up to ten years, in accordance with the relevant data protection laws.

Most of the information refers to the roughly 550,000 crimes and 200,000 traffic accidents that are reported in Lower Saxony each year. A suite of analytics applications use this pool of data to compile customized reports on matters such as crime statistics and traffic accidents.

Christiana Berg, Chief of Police at the Central Police Directorate of Lower Saxony, explains: “The new solution, which is based on IBM Cognos Business Intelligence, provides users with approximately 250 general and customized management reports and analyses, which can be interactively investigated at the click of a mouse.

“Officers can access all the information using a single interface, view the data in tables, graphs or even maps, and explore it in detail if necessary. This is the only system of its type in Germany, and users have described it as a quantum leap in operational intelligence.”

The cutting-edge system is designed to meet the growing demands for sophisticated analysis now and in the future. The solution can be accessed by all officers and is used extensively at all levels of the police hierarchy.

Fast results and ease-of-use

The sophisticated solution supports police in a virtually unlimited range of tasks. For example, if a police unit is tasked with ensuring public safety at a big football game, its officers can prepare by researching fans with a known history of violent behavior. This allows them to predict and mitigate operational risks and take precautions such as deploying additional forces.

The system is also helping in many other operational areas: for example, some squadrons are using it to identify hazards on the roads. It has also revealed the fact that thieves often leave discarded goods in ditches by the side of highways – information that is helping police forces target their operations much more accurately.



“Entering a single phone number into the system enables officers to see which people have been in contact with each other at which times – which can be a hugely valuable insight.”

— Oskar Neda, Head of NIVADIS Analysis,
Central Police Directorate of Lower Saxony

External reporting is easier too. In the past, data on crime statistics had to be compiled manually, which was a very time-consuming task. Now, these reports can be generated automatically at the click of a mouse, freeing officers from manual paperwork and enabling them to focus on catching criminals.

Around 600 staff at the Police Analytics Department of Lower Saxony are now using the new analytics solution to support their investigations.

Oskar Neda, Head of NIVADIS Analysis at the Central Police Directorate of Lower Saxony, adds: “Entering a single phone number into the system enables officers to see which people have been in contact with each other at which times – which can be a hugely valuable insight. Recently, we managed to identify two or three suspects within a few minutes of receiving a manhunt bulletin, simply by entering a basic physical description from an eyewitness account into the system. In subsequent examinations, one of these individuals was identified as the offender.”

Paving the way towards future success

The Lower Saxony police is keen to build on the early success of the new analytics solution by expanding the scope of its application. In particular, the organization is planning to start using the software to streamline operations in financial controlling and human resources.

“The solution’s modularity and ability to integrate with a huge range of systems makes it easy for us to connect additional data sources to the data warehouse, and start generating new types of reports and analyses,” explains Oskar Neda.

“We are currently working with the Karlsruhe Institute of Technology to pursue research into predictive policing. This is an innovative initiative that examines how we can spot patterns in historical data and use them to work out what is likely to happen in the future, and where and when it is likely to occur. This is a very exciting topic, and we look forward to gaining even more interesting findings from our new analytics solution in the future.”

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About the Central Police Directorate of Lower Saxony

The Central Police Directorate of Lower Saxony, which is managed by Chief of Police Christiana Berg, includes riot police, the police helicopter squadron, river police, mobile units and the central organization for service dog training. The body also houses a 300-strong department tasked with providing IT services and support to police officers.

To learn more about the Central Police Directorate of Lower Saxony, please visit: www.zpd.polizei-nds.de

About Steria Mummert Consulting

Steria Mummert Consulting provides business services based on state-of-the-art IT solutions to corporate and public-sector clients in 16 countries. The company employs 20,000 people and is now one of Germany's ten leading business transformation partners.

To learn more about Steria Mummert Consulting, please visit: www.steria.com/de/

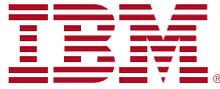
About IBM Business Analytics

IBM Business Analytics software delivers data-driven insights that help organizations work smarter and outperform their peers. This comprehensive portfolio includes solutions for business intelligence, predictive analytics and decision management, performance management, and risk management.

Business Analytics solutions enable companies to identify and visualize trends and patterns in areas, such as customer analytics, that can have a profound effect on business performance. They can compare scenarios, anticipate potential threats and opportunities, better plan, budget and forecast resources, balance risks against expected returns and work to meet regulatory requirements. By making analytics widely available, organizations can align tactical and strategic decision-making to achieve business goals.

For more information

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