



SAS® Public Security Solutions

Customer Success Stories

PUBLIC SECURITY



Law Enforcement



Fusion Centre



National Security



Border Management



Table of contents

Introduction	3
SAS® Success Stories - Examples	3
National Security	4
Arab Fusion Centre	4
A Large Government Department	4
Law Enforcement	5
UK Police Force	5
Gloucestershire Constabulary	5
South Wales Police	5
British Transport Police	6
The Pennsylvania State Police	6
Florida Department of Corrections	7
London - Metropolitan Police Service	8
South African Justice	9
Washington DC Court Service	9
Border Management	10
Odyssey	10
Border Control including use of Biometrics	10
Korea Customs Service	10
China Customs	11
International Law Enforcement Agency	11
Fusion Centres and Information Sharing	12
Michigan Intelligence Operations Centre	12

Introduction

SAS' Public Security solutions address the needs of four principal areas:

- National Security
- Law Enforcement
- Border Management
- Fusion Centre and Information Sharing

For each of these sectors, SAS® solutions support the collection, processing, analysis and dissemination of intelligence in ways that enhances the efficiency of the agencies' operations, while reducing the threat to public security.

SAS has considerable experience of deploying large-scale, mission critical applications on time and on budget.

SAS has considerable experience of deploying large-scale, mission critical applications on time and on budget. As 'large-scale' can mean many different things, for instance: large data volumes; large number of users; large implementation; we have provided in this paper a number of relevant examples that highlight each of these aspects.

For such large-scale implementations SAS has often 'primed' the implementation (i.e. been the lead contractor) using its own resources which are some several thousand strong. However, for many of our clients SAS solutions form a central part of a wider project. We are, therefore, also experienced in working with a Systems Integrator or Business Process Outsourcer.

SAS® Success Stories – Examples

SAS is used by many governments and agencies around the world to support the delivery of their policies regarding security and stability, fighting crime, protecting society and ensuring the safety of visitors. SAS is used to reinforce internal and external security, control crime, terrorism and drug smuggling. SAS is able to assimilate data from a huge variety of sources, and provides a common data format used to exchange security information, fuse data sources together and deliver intelligence and insight, based on SAS' Advanced Analytics and Reporting. On the following pages are some examples of projects from larger installations around the world.

National Security

Producing and exploiting actionable intelligence without compromising security

Arab Fusion Cell

The requirement was for a national security and intelligence solution. This involved migrating several national systems into the centralised SAS intelligence solution.

The data includes: immigration data – 25 million records per year; policing – 9 million records per year; traffic, driver and vehicle details – 20 million records per year; hotel reservations – 3 million records per year.

A large Government Department

The challenge for this agency was the ever-growing volumes of cyber-security data that must be captured and analysed. This data encompasses millions of alerts each day and several terabytes of data in both structured and unstructured (text) format.

The SAS solution integrates, stores and analyses large volumes of data with the primary objective of correlating and prioritising security events that occur within the network in an automated fashion, thus allowing analysts the ability to focus on the areas of greatest threats. Administrators and organisational leadership are also kept abreast of pertinent data through customised information delivery interfaces.

The SAS® intelligence system is used for deconfliction and threat assessment, and provides the foundation for an Intelligence-led Policing (ILP) approach.

Besides CAD and RMS, SAS also integrates data from disparate sources, such as case and gangs management, Suspicious Activity Reporting (SAR), and confidential informant management.

Improvised explosive devices are a major threat to security and stability in certain parts of the world. By identifying networks that finance and deploy explosive devices SAS can uncover and target the operational, financial and social networks involved in IED deployment.

Law Enforcement

Providing a Complete End-To-End Law Enforcement Solution, and Supporting Data Management, Intelligence, and Analytical and Reporting Needs

UK Police Force

One of the UK's largest police forces deploys a SAS® intelligence platform across the entire enterprise.

The system is used by 40,000+ officers and civilians in daily use. Providing real time intelligence 24/7/52. They have been a customer since 1994 and been through numerous technology refreshes, showing their dedication to robust, effective intelligence management on a massive scale.

The solution contains over 12 million documents and 9 million structured records. The system is mission critical with twin resilient sites. It serves 40 devolved management units. The system also has 15 firewalled subsystems providing integration with confidential, highly specialised, highly secure protected units. Other Government agencies have secure access to the system.

Gloucestershire Constabulary

In 2002 Gloucestershire Constabulary began its Vision 5 programme to "promote effective and efficient services". Along with Freedom of Information requirements, this was the key catalyst to invest in improved data quality, remove inaccuracies, provide new levels of insight to support improved law enforcement, and to continue providing performance information and intelligence while adapting to new requirements and priorities.

Gloucestershire Constabulary used SAS to help them drive more intelligence-led and targeted policing, supporting overall management and performance improvements as well as providing new insights and supporting national initiatives including the IMPACT programme, Management of Police Information and the PND (Police National Database).

South Wales Police

South Wales Police needed to migrate millions of records dating back to 1994 from legacy systems into a new policing records management system. It was important to retain access to data stored in decommissioned systems and to free users across the business from data preparation tasks so that they could focus on value-added analytics to better support management.

SAS® Data Integration Studio was the key tool used for the migration, and the only tool for backup and conversion elements. With the migration successful, 15 years' accumulated crime data, covering a million crimes plus everything linked to those crimes, including photographs was easily accessible in a single location.

The benefits have included efficiency gains, improved accuracy and consistency; enabling analysts to focus on value-added activity (helping the force 'do more with less' and ensure public safety); meeting internal reporting needs/monthly crime statistics for management and performance activity, plus statutory reporting including Home Office returns.

British Transport Police (BTP)

The BTP is the national police force for the railways, providing a policing service to rail operators, their staff and passengers throughout England, Wales and Scotland. The Force is also responsible for policing the London Underground system, the Docklands Light Railway, the Midland Metro Tram System and Croydon Tramlink.

Through data sharing development by SAS, BTP are now able to access local police force intelligence data more efficiently and therefore better able to investigate crime.

In addition to a force-wide Intelligence Management system, the BTP procured an analytics application to take on the role of the BTP's Intelligence Data Warehouse. This application enables the BTP to share intelligence data with other forces including Thames Valley, West Mercia, Essex, Nottinghamshire and West Midlands Police. BTP have ambitions to extend this partnership approach in the future.

A BTP spokesman commented: "Our analysts can now use sophisticated and powerful searching methods to analyse a whole range of data, including that of partners, quickly and easily. It is probably the most powerful tool we have. Using software systems like the one provided by SAS will mean offenders being identified more quickly, benefiting victims and potentially preventing further crimes being committed. The experience of BTP clearly demonstrates how partner agencies can come together to maximise the benefits of intelligence-led policing."

The Pennsylvania State Police

Using the latest in SAS technology, police in the country's sixth most populous state are providing their frontline troopers with instant access to all available criminal intelligence information through computer alerts, instant messaging and a 24/7 Criminal Intelligence Centre. SAS is also instrumental in daily intelligence briefs and long-term strategic planning in the fight against terrorist organisations.

The solution puts the latest criminal intelligence at the fingertips of troopers in the field. Using the latest mobile SAS technology, patrol officers can instantly get analysis and alerts before they move into action -- and possibly danger. "That's the whole idea of intelligence," said a State Police spokesman. "Using it to take pro-active measures rather than simply reacting to crime."

A further advantage is that the technology breaks down barriers between vast amounts of institutional intelligence that exist in a police officer's head and in the force's files. SAS provides intelligence information to the officer on the streets who needs it.

SAS' advanced technology really begins to shine when an officer starts off virtually blind and is forced to do a general search. The underpinning of the system is a free-text database system providing rapid access, analysis and exploration of all information, both structured and unstructured.

The key message from one of the solutions sponsors at the PSP: "Make the investment in intelligence because the investment pays dividends. It's more than an obligation. We cannot simply defer to our federal counterparts and consider our job done. Our analysts using SAS are harnessing all these databases. We're the go-to people – when you need an answer, that's us, and the information is good. We've turned into a huge resource that didn't exist before."

Florida Department of Corrections

Florida law enforcement agencies rely on the Department of Corrections for ad hoc assistance in narrowing suspect lists for serial crimes. Using SAS to access historical corrections data and analyse it for known criminal patterns and traits, the department can compile reports in a matter of hours and export them to local police and sheriff departments to assist in the search and apprehension of suspects.

SAS also makes it easy to track activities involving individual inmates, such as transfers, disciplinary actions and positive drug tests. This information can be used to match random drug testing results with demographic data, for example, so corrections officials can determine the characteristics of drug users within the system and implement new policies to reduce drug use in a prison facility.

With help from SAS, the Florida Department of Corrections has witnessed the importance of combining, analysing and interpreting data from throughout the criminal justice system – benefits that ultimately range from detecting and preventing crime to optimising state resources.

Law Enforcement and Crime Control – Data Sharing

London - Metropolitan Police Service

The team had a clear vision of what was needed and has ensured that the project works towards the delivery of benefits for operational policing, such as officer safety, policing effectiveness and public protection."

The project currently focuses on information recorded in key policing systems. Work is directed to data identified by stakeholders and users as most valuable to their job. Three main approaches are employed to improve quality:

- Enhanced data entry validation to help police officers to get it right first time.
- Data quality reports sent directly to boroughs for review and action (see box).
- Identification and dissemination of data quality best practice.

Over the past year the Data Quality project has brought remarkable improvements to the quality of MPS data. The project provides each MPS borough with a view of its data quality. There are several reports, of differing levels of granularity, to support different types of user, but at the highest level, data quality performance is represented by a Red, Amber and Green (RAG) status. At the original baseline, only one borough demonstrated "Excellent" data quality. Now (as of December 2008), almost all boroughs have "Good" or "Excellent" data quality.

Data quality is measured against standards based on business rules and processes. Where appropriate, the IMPACT data quality standards have been applied. At present, around two hundred business rules across three major MPS applications (Crime, Custody, Stops) are monitored. Missing and invalid data, as well as inconsistencies such as dates that do not align with other information in a record, raise exceptions, which are reported upon.

The benefits to the MPS include improving the ability to find and link information on offenders. This increases public and officer safety and contributes to greater efficiency. It enhances confidence in the data, increasing the likelihood that it will be used and trusted by MPS staff and partner agencies.

Criminal Justice

South African Justice

The Department of Justice and Constitutional Development in South Africa (DoJ) is using SAS for planning in order to promote better service delivery and management of its budget. Decisions have to be made and problems addressed quickly in order to meet the requirements of the court system, therefore a flexible and timely implementation, with further development being driven by user requirements, was a critical success factor of this project.

SAS® is used to provide credible information to protect the public and administer justice.

South Africa is sub-divided into provinces and magisterial districts within the courts have a 3 tier structure, namely district, regional and high court. As part of this project, crime levels and court statistics were mapped to magisterial districts in order to determine the effectiveness of the criminal courts and to establish if each court has enough resources to deal with its volume of criminal cases.

The SAS solution gives each district the responsibility for the on-going monitoring and management of resources within the department in order to ensure that justice at a local level is dispensed effectively and efficiently. It facilitates the allocations of resources to the courts across the country according to the needs in that area, as well as effectively catering for future requirements based on factual assessments and financial modelling.

To optimise the service delivery of the justice system the DoJ investigated the demand on and supply of services. Police station-level reported crime statistics, economic data, incarcerated people by location, offence type, sentence, etc. and demographic information was used to predict demand. Human resources which impact justice service delivery, the number of cases by type and spend time on cases were used to forecast supply.

The solution also involved the development of a Geographical Information System (GIS) for spatial analysis and visual representation of both demand and supply related data. Using the matrices and the crime data in SAS, the crime levels per magisterial district could be calculated and imported into the GIS, relationally joined with the spatial data and mapped per magisterial district.

Washington DC Court Services

The Court Services and Offender Supervision Agency (CSOSA) is the federal executive branch agency responsible for supervising 15,000 parolees, probationers and supervised releases in the District of Columbia. CSOSA uses SAS® Analytics to manage staff workload more efficiently, study recidivism patterns and keep district residents safe.

SAS provides multiple solutions that help the agency gather data from numerous sources, analyse it and make it available to all staff members from parole and probation officers to the director, to aid in making smart choices. Using SAS, CSOSA has created SMART-STAT, which helps the agency work smarter.

Border Management - Maintaining Secure, Efficient Borders

Illegitimate Travel and Trade - Customs

Odyssey – The Strategic Pan-European Ballistics Intelligence Platform for Combating Organised Crime and Terrorism

This platform has the objective of developing a secure interoperable platform for automated information analysis to combat organised crime and terrorism. It has the ability to search for information obtained using advanced semantic knowledge extraction and data mining techniques to facilitate fast and responsible decision making across the EU. SAS was chosen as part of a consortium of specialists including military, police, research and academic institutions.

Border Control including the use of Biometrics

SAS is used by one of the world's largest border control agencies which has very high rates of crossings. It is using SAS and other advanced electronic technologies to provide a way of collecting and analysing information on everyone who travels to or from the country in question. Information is gathered on all travellers, passengers and crew entering or leaving the country by air, sea or rail.

It allows the agency to identify passengers who are potential risks and alert the relevant authorities. Other technologies such as biometrics will ensure people are identified securely and effectively.

Korea Customs Service improves Detection of Illegal Cargo

The Korea Customs Service (KCS) is a government agency established to secure national revenues by controlling imports and exports for the economic development of South Korea and to protect domestic industry through contraband control. It is responsible for the customs clearance of imported goods as well as tax collection at the customs border.

The agency is also concerned with areas such as social security, health care, environmental protection, and overall control of foreign transactions covering false indication of origin, infringement of intellectual property rights, illegal foreign exchange transactions and money laundering.

Over the last decade, Korea's imported goods more than doubled as the size of the KCS work force remained the same. This forced the agency to find an effective way of detecting illegal cargo using existing resources and without being able to inspect all imported goods. KCS tried to promote greater efficiency and the use of selective inspections, but the results fell short of expectations.

Charged with screening enormous amounts of data from bills of lading, ship manifests and passenger travel lists, a large defence agency uses SAS to efficiently flag suspicious data and reduce data errors resulting in heightened threat awareness and terrorism prevention.

In the previous risk management system, the subjects of inspection were selected based on the importers, items or foreign providers of illegal cargo detected in the past.

So when illegal importers changed the names, items or foreign providers, KCS was at a disadvantage. Moreover, as the patterns of illegal imports changed, computer experts targeted different kinds of cargo for inspection without taking into account the experience and know-how of customs agents in the field. Consequently, there have been continuous complaints against the customs inspection by the customs staff and the general public.

KCS decided to implement an advanced risk management strategy to deal with these complaints. It specified three areas for innovation – the system for targeting illegal cargo, the actual method of inspection and the expertise of inspection personnel – to achieve total improvement of the inspection process. The new system enabled scientific and rational customs services. Currently, more than 400 staff members in the field are using the advanced risk management system. Upon a request for customs service, the personnel in charge of import inspection can immediately decide whether to inspect the cargo. Now they can detect potentially illegal attempts for customs clearance on the spot through KCS' know-how and data mining techniques.

The SAS solution enabled more specific and accurate targeting of illegal cargo. For instance, the number of potentially illegal factors increased from 77 to 163. As a result, the detection rate for important items, as well as the total rate, increased by more than 20 per cent.

China Customs

China turned to SAS to modernise duty collection, reduce smuggling across borders and improve trade processing and customs logistics. After implementing and using the SAS solution for less than two years, hidden administrative risks have been detected, \$20 million in duty has been retrieved and the solution has been distributed to 37 regional customs districts.

International Law Enforcement Agency

An international law enforcement agency fights terrorism, human trafficking, cyber-crime and transnational crime using SAS. Using an automated and centralised information platform, analysts have experienced a 20 per cent time saving and can now easily access and manage criminal data from any source without manual coding.

By collecting and analysing data on all travellers and passengers entering or leaving the country by air, sea or rail, the agency can identify passengers who are potential risks and then alert the relevant authorities.

Fusion Centres and Information Sharing

Sharing Information across Disparate Agencies

Michigan Intelligence Operations Centre

The State of Michigan deploys a SAS solution to deploy the state's primary criminal intelligence platform, which provides access to more than 600 law enforcement agencies, more than 21,000 certified police officers as well as numerous state and federal departments.

That platform, known as the Michigan Criminal Intelligence System (MCIS), is run by the Michigan State Police and is used in the Michigan Intelligence Operations Centre for Homeland Security (MIOC), the state's fusion centre.

The MIOC use the SAS intelligence system to gather, collate, track, analyse and disseminate terrorism intelligence information. Additionally, the system is used to counteract conventional criminal activity, including street gangs, organised crime and high-volume crimes. Just as important is the SAS product's capability to assist the Michigan State Police in compliance with State and Federal laws pertaining to the protection of citizens' privacy rights. "The State of Michigan deployment will be the largest in the U.S." said Neil Schlisselman, of SAS Americas. "Law enforcement in Michigan will benefit greatly from a common intelligence platform for information sharing as well as SAS' engaging approach to commercial off-the-shelf (COTS) software deployment and customer service."

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About SAS

SAS is the leader in **business analytics** software and services, and the largest independent vendor in the business intelligence market. Through innovative solutions delivered within an integrated framework, SAS helps customers at more than 65,000 sites improve performance and deliver value by making better decisions faster. Since 1976 SAS has been giving customers around the world THE POWER TO KNOW®.

PUBLIC SECURITY



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