

Home Office Case Study

PRAGMATIC APPROACH WINS APPROVAL FROM HOME OFFICE

The Challenge

- Address the demand for more frequent and complex immigration statistics
- Sustain the highest standards of statistical independence and integrity
- Eradicate silos of information, pulling all information together into a single source
- Replace ailing legacy systems
- Circumvent red tape and deliver a practical solution to satisfy the needs of statisticians and analysts

The Solution

- A single SAS database containing all data on immigration, asylum and citizenship
- SAS-based data management toolsets to enable non-technical users to build and maintain their own datamart
- Customised Futrix-based reporting tool
- Flexible components to cope with large and growing data sets and changing reporting needs
- Wizards for data import, data cleansing and reporting

The Results

- A single source for immigration, asylum and citizenship data
- Toolsets easy for non-technical statisticians and analysts to use
- Pragmatic approach to development ensured software delivered on time and within budget
- Close cooperation between Amadeus and users ensured solutions met user requirements

ABOUT AMADEUS – The SAS Specialists Amadeus Software Limited, formed in 1989, provides Business Intelligence Solutions. We are a SAS9 Preferred Implementation Partner for delivery of SAS projects across all industries. We have earned our outstanding reputation by providing first-class solutions, unrivalled technical support and clear, practical training. We achieve this by remaining at the forefront of Business Intelligence technology and providing solutions that meet customer objectives. Our Project Management is structured to provide pragmatic quality assurance ensuring successful delivery.

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OBJECTIVES

There are some 12 million passenger arrivals in the UK each year, excluding subjects from Britain or the European Economic Area. This creates a huge and growing demand for statistical information about all aspects of immigration, asylum, nationality and citizenship, not least from government ministers and members of parliament.

Responsibility for collating immigration data and providing statistical analyses and reports falls to the Immigration Research and Statistics Service (IRSS), an independent section of the Immigration and Nationality Directorate within the Home Office. IRSS works to accredited standards and fiercely guards the independence and integrity of the statistical information it delivers.

With a 20-strong team of analysts, IRSS faces the challenging task of pulling together vast volumes of data collected through a variety of administrative systems, and producing independently verified statistics and an array of regular and ad hoc reports for government, parliament and the wider public.

“Immigration is a hot topic and the reports and analyses we have to deliver are growing in number, becoming more complex, and increasingly urgent,” explained Philip Danzelman, Assistant Project Manager at IRSS. “We needed to rationalise our processes. **Amadeus has proved an excellent and adaptable partner** in delivering a solution that automates how we handle the large datasets, and gives us flexible, easy to use tools for the rapid production of consistent, high integrity, statistical information.”

LEGACY SILOS OF INFORMATION

Over the years, individuals and groups within IRSS had created silos of information about immigrants, asylum seekers and citizenship. Each was developed using the tool most convenient for the user, which led to a variety of separate data bases - some developed in Microsoft Access, some using SAS software and some in Excel spreadsheets.

There was no easy or quick way to pull common information together without extracting and manipulating it manually. There were also inconsistencies in approach to dealing with data anomalies, where fields had been left blank, for instance. This jeopardised the statistical integrity of reports where tables from different sources were extracted for comparison or aggregation.

The final straw came when the Microsoft Access databases began to creak under the sheer volume of data and some of the old legacy systems failed because they could not adapt to cope with the current needs for immigration statistics in the 21st century.

It had been thought that this situation would be resolved through a major Home Office project to automate the entire end-to-end process of handling immigration, asylum and citizenship cases. After several years in gestation, however, this comprehensive modernisation of the Immigration Casework Programme proved unsustainable and was curtailed. Although subsequent work by the Immigration and Nationality Directorate to develop the electronic Case Information Database has proved highly successful, with the failure of the Casework Programme IRSS was left with its outmoded array of separate data analysis tools which were at risk of failing and unable to cope with the volumes of data, the complexity of analyses or the variety of information now being requested.

PRAGMATIC PARTNERSHIP

“We were faced with an immediate problem and needed to cut through the red tape to find a rapid solution,” said Philip Danzelman. “We identified Amadeus as the company who could help us achieve our objectives. A mid-sized company, it is very flexible and its consultants have a very personal approach to dealing with users and understanding their needs. In delivering a solution, Amadeus has proved to be technically very competent and extremely adaptable and pragmatic in creating a set of tools that enable us to cope easily with fast growing data volumes and rapidly changing requests for analysis and reports.

” The selection of Amadeus followed an open tender for the development of a Data Management System for the creation of a single consistent database of immigration data and an easy to use toolset that would enable IRSS statisticians and analysts to produce their own reports. Three companies were shortlisted before Amadeus was chosen mainly for its pragmatic approach, its willingness to involve users throughout the development process, its technical competence and its price.

The solution that Amadeus developed in conjunction with IRSS is called the Immigration Casework Analysis System (ICAS). It provides the tools for IRSS to develop a single comprehensive SAS datamart covering immigration, asylum and citizenship statistical data, which is shared by all IRSS staff who are equipped with a wizard based toolset enabling them to generate their own rapid reports. Users need have no exposure to the underlying SAS database, since ICAS handles all data management activity transparently at a higher level. Similarly there is seamless interaction between the reporting level and the underlying data.

ICAS comprises two components, both of which are driven by metadata which facilitates re-use of processes and reporting structures.

The first component is a Data Manager - a highly intuitive toolset with a point and click Windows interface which allows the definition of processes to load, cleanse, validate and merge data raw data. This allows IRSS users, who are non-technical people, to create a central datamart and manage and manipulate data extracted from various Case Information Databases and other information sources. The datamart is created as a SAS database, however, users are able to manipulate large data sets without any knowledge or training in SAS coding, SQL or any other technology.

The second component is a set of wizards created and customised by Amadeus using Futrix reporting software, a specialist toolset designed for use with SAS databases. Users are able to drill down, drag and drop items and create their own reports using intuitive wizards very similar in format to the normal Microsoft wizards with which they are familiar.

Multi-tiered security that Amadeus built into ICAS ensures that only authorised users have access to the database and reports and only with appropriate class permissions.

“Our users are not able to spend large amounts of time learning programming languages,” Philip Danzelman explained. “The toolsets that Amadeus created allows them to handle large datasets, exploit the power and capacity of SAS and create their own dynamic reports without knowing anything about the underlying code. The intuitive approach means users require little training or guidance and we are completely self-supporting in our use of ICAS.”

The priority for IRSS was to replace the silos of statistical data on immigration, asylum and citizenship with a single, coherent and comprehensive database which all IRSS statisticians and analysts could use. This is being achieved with ICAS and allows IRSS to harmonise its processes and produce consistent statistical information of the highest integrity. For example, data on the settlement of asylum applicants and non-asylum cases that has previously had to be extracted, reformatted and combined manually can now be drawn together in ICAS.

In developing a new, central datamart, IRSS also wanted to eliminate the risk of any failure amongst legacy databases. ICAS has achieved these objectives, but the solution goes a great deal further.

All IRSS users have access to the same database and report structures and are able to see how other users generated reports. They are able to use these as templates to replicate data and output, achieving data consistency and shortening development cycles.

Throughout the project, Amadeus and IRSS participated jointly in project meetings and IRSS users were involved at all levels during specification, development, testing and implementation phases. Early on, Amadeus consultants led requirements workshops for IRSS taking great care to ensure that the end solution would allow non-technical users to focus on understanding and handling immigration data rather than becoming proficient in technology, databases and software tools. The buy-in of users was a constant key factor in the success of the project.

“As a user department with little technical expertise, it was a major undertaking for IRSS to create a large, single immigration datamart and build the reporting toolset to satisfy demanding requests for information,” Philip Danzelman concluded. “The fact that we have achieved this with an adaptable, easy-to-use solution, with software delivered on time and to budget, is due very much to the flexibility and down-to-earth approach of Amadeus.”