

## Case Study:

# Customer Success Story - Data Quality and Financial Risk

### The Company

Smals is a government controlled Belgian ICT services organization that assists around 100 institutions in managing their IT infrastructure, services, and data to help deliver public services more efficiently. Smals' members are primarily found in the healthcare and social security sectors and include the Crossroads Bank for Social Security, the National Social Office, the Egov association, and the Belgian eHealth platform.

Smals' Data Quality Competency Centre, part of Smals research department since 2004, provides guidance for its members, coaching, and training for data stewards, as well as project-oriented consultancy. Data quality has always been a crucial aspect of its work and Smals needed more robust data matching and data quality capabilities to support the business objectives of its diverse range of member institutions.

"We needed a data quality solution that matched our data quality ethos and where the standards would be scalable for the very large data sets that we manage. We found Precisely's solution to be easy to use, powerful and capable of the level of complex fuzzy matching that we needed" said Dries Van Dromme, Data Quality and Analytics Consultant, Smals. "Most importantly, though, it supported and improved the work of our diverse range of members."

Precisely's data quality solution was deployed across a range of Smals' member organizations and what follows is an investigation into the benefits delivered by Precisely's solution to just one of those organizations: the National Social Security Office (NSSO).

### The Challenge

#### Identifying financial risk, regulatory compliance issues, and social fraud using sophisticated data quality techniques

The NSSO is one of Smals' primary member organizations and is responsible for the correct and timely levying of contributions, ensuring the continued, healthy financing of Belgium's extensive social security system. A key objective is therefore to reduce losses in overdue social security contributions (payments due from employers and employees active in Belgium). A sophisticated system of early warning signals allows the NSSO to help companies avoid bankruptcy.

### The Challenge

Accurate identification and linkage of companies and individuals to identify financial risk, compliance issues, and social fraud.

### The Solution

Trillium Quality

### The Result

Improved prioritization of targeted investigations, more accurate risk models and fraud predictions. Tenfold improvement in data processing timescales

### Industry

Government

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- Dries Van Dromme, Data Quality and Analytics Consultant

Another key objective is the quality control of the complex system of electronic declarations, enabling the NSSO to calculate the social contributions' due amounts, and allowing all other social security institutions to correctly determine each worker's accumulated social rights. Last but not least, in order to ensure regulatory compliance the NSSO, together with other institutions, conduct random and informed inspection actions.

In the case of regulatory compliance, the scope extends internationally, as foreign companies sending workers to Belgium in a way that may be exempt from social security taxes, are legally bound to provide the necessary security, health and safety measures, and minimum wage, guaranteed under Belgian law.

In this context, the NSSO's many challenges include: building an accurate picture of (the networks of) companies and individuals working in Belgium, identifying those falling short of legal standards or otherwise at risk (e.g. of bankruptcy), and informing inspection services where fraudulent activity may be likely to take place.

In the development of the solution to support NSSO objectives, Smals has encountered and addressed many data quality issues. These include a lack of standardization of registration numbers across different EU members, of missing documentation, an inability to enforce business rules within applications, overloaded and missing data fields, and inconsistencies across multiple data sources.

"In particular, the inability to accurately identify and link companies and individuals across a wide array of applications and databases had rendered a number of key processes difficult and time-consuming, and had always severely hampered previous fraud detection initiatives," Van Dromme confirms.

**"Precisely's solution for identity matching has undoubtedly helped NSSO's agents of various services by improving precision and recall of directed search queries. Furthermore, the improved ability to reliably establish links across databases yielded more accurate risk models and fraud predictions."**

- Dries Van Dromme, Data Quality and Analytics Consultant

## The Solution & Benefits

Long-standing Precisely partner IntoDQ were tasked with helping Smals train data stewards, migrate the data, and implement the Precisely data quality solutions within the NSSO application databases and the data warehouse hosted by Smals. In a series of migration projects and re-engineerings, Precisely was used to profile, cleanse, and match data sets, which greatly improved data quality standards and entity resolution.

Smals' own productivity benefited from the Precisely solution. Data migration became up to 10 times faster than before the Precisely solution had been available. For example, one data migration project that would have taken about 100 man-days to accomplish several years ago was re-done in 10 days.

"Previously we had functional analysts performing ad hoc coding throughout the data migration process. It's slow, frustrating work and not the best use of our data stewards' time. Now armed with Precisely, the ability to predict conflicts that will arise when migrating data to a new and improved data model, helps to avoid much re-work and yields more robust applications. As Smals performs two or three projects of this scale every year, we may be able to save somewhere between two and three hundred man-days a year through the implementation of Precisely," said Van Dromme.

The improved entity resolution and fuzzy matching yielded benefits more immediately apparent for the NSSO's fraud detection objectives.

"Precisely's solution for identity matching has undoubtedly helped NSSO's agents of various services by improving precision and recall of directed search queries. Furthermore, the improved ability to reliably establish links across databases yielded more accurate risk models and fraud predictions. This means agents and inspectors can prioritize their investigations, stepping in to help the parties that are most at risk, making for far more efficient working processes. We've been told that certain types of targeted investigations have improved their hit rates significantly, to about 80%. Bottom line is, with Precisely data quality our data, and hence our results, are much more trustworthy. Without it we'd still be stumbling in the dark," said Van Dromme.