

History of data collection and processing for Oversight at TCU - 1995-2014.



**Claudio Souza
Castello Branco**

is a civil servant of the Federal Court of Accounts - Brazil. He performs as General Coordinator of External Oversight of Essential Services for the State and the Southern and Midwestern Regions (Coestado).

SUMMARY

Information Technology (IT) can promote and leverage the most diverse areas of human knowledge, including government audit.

Aware of this reality, the Brazilian Federal Court of Accounts (TCU) has sought, since 1995, to use various means to include IT in its work processes and thereby garner better results for society.

Several examples of this inclusion have occurred in the last two decades at TCU. From the introduction of the Integrated Personnel Acts Examination System (SISAC) in 1995 to the implementation of the Strategy for the Audit of Social Security Benefits Control in 2014, the Court has used data collection and processing with the aim of generating better information and knowledge for the fulfillment of its constitutional mission.

Currently, with the varied and increasing options for IT use in audits and the growing quantity and quality of public services available to citizens electronically, the Court is increasingly seeking to optimize its activity through information technology, in a permanent and inevitable way that will ultimately lead to a more efficient and effective government audit for the benefit of citizens.

Key words: Data processing; SIAFI; Transparency; Public Management; Technological evolu-



tion; Optimization; SISAC; SINTESE; Data extraction; SIAPE; SIGI; DGI; ADP; Automatic analysis; SAUDI.

1. INTRODUCTION

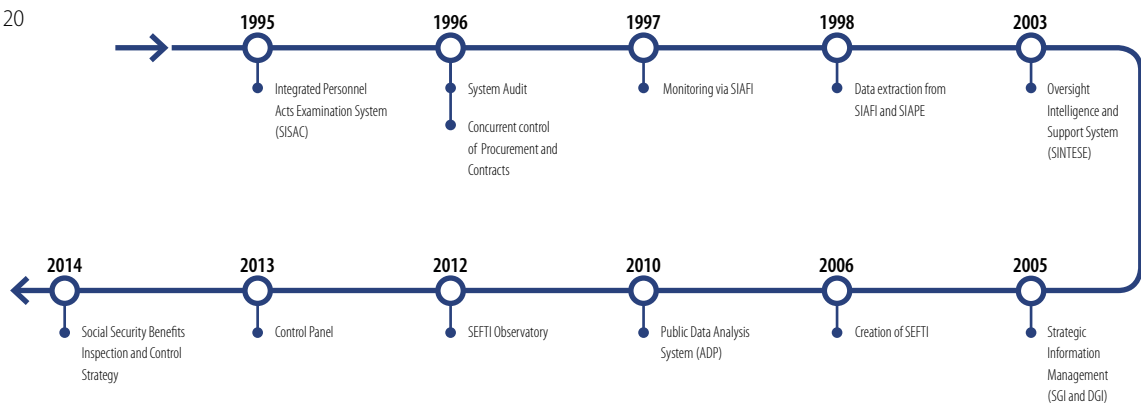
As a result of the implementation of the Integrated Financial Administration System (SIAFI) in 1987, federal public managers now have only one accounting records system, including for the implementation and monitoring of budgets and finances. This scenario has enabled SIAFI to become the main tool

for the federal government’s processing and control of financial resources, as it has brought greater agility and transparency to public spending, representing undoubtedly a breakthrough in public management.

Soon after, the Brazilian Federal Constitution of 1988 extended the jurisdiction of Brazil’s Federal Court of Accounts (TCU) with respect to audits, leading to a significant improvement in oversight. At that time, data and information were obtained in the form of paper documents, and the evidence collected came from copies of documents attached to court records.

Figure 1:

Data processing: 20 years of history



Back then, the culture of using electronic database to obtain or confront information used in TCU audits had not yet been established.

To further contextualize the technological situation available to TCU auditors during that period, it is worth mentioning that audit reports were handwritten and then typed; each office had only one microcomputer, which was shared by a group of 5 to 10 auditors.

Despite this reality, in the mid-1990s TCU optimized the examination of concession and admission acts subject to registration, by electronically collecting and processing data. This advance led the Court to see SIAFI and other federal administration systems as powerful instruments of aid to audits, since they enabled direct and real time access to budget and financial transfers, allocation bills and money orders, among several other management acts, which before required auditors to commute or documents to be physically sent to them.

The first data collection and processing initiatives at TCU were implemented against this backdrop, sometimes by creating an internal system, others by using existing federal administration systems, and others yet by auditing them.

2. INTEGRATED PERSONNEL ACTS EXAMINATION SYSTEM (SISAC) - 1995

The duties of the Secretariat of Personnel Audit (SEFIP) include examining concession and admission acts subject to registration and auditing payments in the area of personnel. The mission entrusted to this Secretariat highlighted the need for the strong use of information technology in fulfilling its duties, with the definition, maintenance and use of databases and information systems related to the unit's business. Basically, two activities carried out by SEFIP are founded on the massive use of databases: the examination of personnel acts (concession and admission) and the audit of federal civil servants payroll.

As for the examination of personnel acts, the following evolutionary steps are worth mentioning:

- a. Until 1995, the examination of personnel acts was based on information contained in personnel proceedings organized at the origin (personnel body). This means that TCU acted on administrative proceedings (conventional acts) referred to the Court by government

agencies containing personnel acts for registration purposes.

- b. The Integrated Personnel Acts Examination System (SISAC), which consisted of the electronic collection of data relating to concessions and admissions subject to registration by TCU, was developed and implemented in 1995. With this system, TCU began to issue opinions on the legality of the information contained in the summary sheet of each personnel act in the SISAC system.
- c. From 1995 to 1999, two systems for the examination of personnel acts coexisted: the conventional system and the system based on the analysis of the summary sheets of personnel acts (SISAC).
- d. Since the year 2000 TCU has accepted only summary sheets contained in the SISAC system. At that time, there were more than 400,000 personnel acts in stock, with an annual output of 25,000 acts on average and an annual average entry of more than 90,000 acts. That meant an excessive stock associated with the strong tendency towards stock formation.
- e. Also in 2000 an automatic system for the examination of admission acts was developed as a way to face this scenario, with the development of a series of electronic reviews that allowed TCU to declare the legality or illegality of such acts. As a result, the annual output jumped from 25,000 to more than 70,000 acts. In addition to this gain, the new system also led to a significant reduction in the stock of these acts.
- f. In 2005 the work process was improved, further increasing the output of acts. The system began to prosecute, investigate, and examine acts with similar characteristics, a fact that increased the annual output to over 90,000.
- g. Since 2009 new electronic reviews, now also for concession acts, which began to access fields of various computerized systems of the Federal Public Administration (Integrated Human Resources System - SIAPE; Computerized Deaths Control System - SISOBI; Annual List of Social Information - RAIS; Registration of Individuals - CPF, etc.), have increased the annual number of acts examined from 90,000 to more than 120,000, with the consequent improvement in the quality of decisions in the area of personnel acts.

- h. Today, the SISAC system has more than 4 million personnel acts in its databases, each act with more than 100 fields each, totaling more than 400 million data/registration fields. In addition, in 2013 TCU reached the milestone of 1 million acts examined automatically, with no human intervention whatsoever.

The activity related to the audit of the aforementioned federal civil servants payroll is discussed in the chapter on Systems Audit - 1996.

3. CONCURRENT CONTROL OF GOVERNMENT PROCUREMENT AND ADMINISTRATIVE CONTRACTS - 1996

In June 1996 TCU enacted Ordinance No. 347, regulating the Concurrent Control of Government Procurement and Administrative Contracts.

This control entailed monitoring bidding processes as well as cases of exemption from and non-requirement of bidding by the agencies and entities of the federal direct and indirect administration, through the selection of samples of the procedures to be analyzed based on the information available in the computerized systems of the Federal Public Administration, including SIAFI, and on other available sources. The sample selection criteria took into account the materiality of events, inconsistencies between the available data, and the signs of irregularities among others. The information collected fed a database organized by agencies and areas. The Audit and Inspection Secretariat (SAUDI) was responsible for conducting a preliminary analysis of the selected procedures with respect to legal, economic and administrative aspects; request additional information to procurement agencies and entities; and in the case of identification of possible irregularities, pursue or refer the relevant evidence to the competent technical unit for further verification and examination.

4. SYSTEMS AUDIT - 1996

At that same time, SAUDI began to conduct systems audits and data analysis, with an emphasis on: audit of the Employee's Dismissal Fund (FGTS) to verify the safety and reliability of the data processing systems used, held in 1998 (Decision 445/1998, TCU-Plenary); audit of SIAFI, also held in 1998 to verify the safety of the system as to the veracity and

reliability of the information it produced and the possibility of fraud against the public administration through the system (Decision 1380/2002-TCU/Plenary); and audit of the Secretariat of Government Property Management (SPU) to assess the situation of government property and the payment of rent and laudemium owed on Navy land, held in 2000 (Decision 295/2002-TCU/Plenary).

Later, with the creation of the Under Secretariat of Inspection (ADFIS) and its Information Technology Audit Division (DATI), the scope of the audit of data systems and databases was expanded, with the special aim of verifying the safety and reliability of these bases against frauds, with an emphasis on: Social Security Benefits (Decision 1921/2003-TCU-Plenary); Admission and Concession of Retirement and Pension of SIAPE (Decision 2167/2004-TCU-1st Chamber); Collection of Social Security (Decision 231/2005-TCU-Plenary); Student Funding System (Decision 914/2006-TCU-Plenary); National System of Integration of Information on Justice and Public Safety (INFOSEG) (Decision 71/2007-TCU-Plenary); and Collection System of the Internal Revenue Secretariat (Decision 2697/2007-TCU-1st Chamber).

In 2006, with the creation of the Information Technology Audit Secretariat (SEFIT), the systems audit was intensified, with the same focus as that of ADFIS, i.e., verification of the safety and reliability of databases with regard especially to fraud, with an emphasis on: Consignment in SIAPE (Decision 1505/2007-TCU-Plenary); Document of Forest Origin System (DOF) (Decision 309/2009-TCU-Plenary); Unified Registry (CadÚnico) (Decision 906/2009-TCU-Plenary); Computerized Death Control System (SISOB) (Decision 2812/2009-TCU-Plenary); Integrated Registry of Delinquent Taxpayers (CIDA) (Decisions 3382/2010 and 2994/2011, TCU-Plenary); General Services Administration System (SIASG) and Comprasnet System (Decision 1793/2011-TCU-Plenary); Contract Monitoring System (SIAC-DNIT) (Decision 2832/2011-TCU-Plenary); Transfer Agreements and Contracts Management System (SICONV) (Decision 2550/2013-TCU-Plenary); and National Transplant System (SNT) (Decision 1691/2013-TCU-Plenary).

These audits, which were initially performed using the Microsoft Access software and later the Audit Command Language (ACL), relied on experts in the business of the entity being audited, from the technical unit to which the clients belonged. In all, 18 system audits were conducted by SAUDI, ADFIS and SEFIT.

Some Oversight secretariats also conducted system audits, developed and applied data collecting and processing methods, with a special emphasis on the work of the Oversight Secretariat in Ceará (SECEX-EC), SEFIP and the 5th SECEX, which was succeeded by the Social Security SECEX.

Pursuant to Decision No. 2416/2008-TCU-Plenary, SECEX-CE conducted an audit at Bank of Northeast Brazil (Banco do Nordeste do Brasil - BNB) covering the credit recovery area and the management of resources of the Northeast Development Constitutional Fund - FNE.

The objective of the audit was to verify the efficiency and effectiveness of the Credit Recovery area of BNB by identifying, after the loan was granted and the default on obligations undertaken by the client assessed, which administrative and legal measures the bank was taking to ensure the return of the money lent/financed and whether such measures were achieving adequate results.

At the time of the audit, the assets of both the bank and the fund exceeded R\$41 billion. The option chosen was to conduct a system audit: the tables comprising the six audited systems were requested, and through reverse engineering the auditors developed an integrated tool consisting of the union of all systems.

The option for system audit allowed auditors to get to know the databases of the six systems databases and generated as a byproduct the development of a new system that enabled analyzing thousands of operations in fourteen of nearly 211 branches in operation at the time. Hardware and software limitations prevented this analysis from being extended to all branches. The following figures show the extent of the work done:

1. Systems audited: 6;
2. Fields mapped out: 7,000 fields in 582 tables;
3. Records obtained: approximately 150 million;
4. Analytical data of branches: 14 branches with 234,154 operations, representing 33% of the financial amount of the BNB Asset Base;
5. Databases generated to store the information obtained: about 60.

The audits provided a broad view of how BNB was managing its credit operations, and led to the identification of numerous weaknesses that can be found in TC-002 793/2009-0.

The conclusions led to the proposal of measures to improve BNB controls in the audited area, in order to enable the legal recovery of debts.

SEFIP, in turn, also used databases in several activities, among which the most recent are the Audit on Accumulation of Offices in each of the armed forces (Navy: Decision 11.52/2014 Plenary; Air Force: Decision 11.53/2015 Plenary; Army 11.54/2014 Plenary). In general, payroll audits:

- a. Are carried out through monthly data collection (Audit Command Language Software - ACL) of SIAPE.
- b. Data from the databases of the following systems are collected on a periodic basis: SISOBI (every two months), RAIS (annually).
- c. Every six months SEFIP receives all databases containing the payrolls of all entities of the Legislative and Judiciary branches, Public Prosecution Service and the Armed Forces.
- d. In each payroll audit SEFIP inspects thousands of records. For example, in the audit of constitutional ceiling throughout the federal public sector more than 600 million records were analyzed.
- e. Today, the payrolls that are copied to the SEFIP databases alone take 6TB (terabytes) of storage space, due to the huge amount of data.

Another unit that has also conducted system audits and data processing is the Social Security SECEX, which operates in the areas of Social Security, Social Assistance and Labor, which concentrate more than 90% of all benefit resources, such as retirement and pensions, sick pay, unemployment insurance, salary bonus, bolsa família (family grant), and continuous cash benefit. As a result, the use of control measures involving data collection and analysis has been one of the main strategies of the secretariat.

Among the experiences of the secretariat is the Strategy for the Audit of Social Security Benefits Control, which included the analysis of internal controls and the implementation of three audits in the databases of the benefits of greater materiality (rural and pension for death, age limit and time of contribution). Data audits in Unemployment Insurance for Formal Workers and Small-Scale Fishermen have also been conducted since 2012.

Although the data matching methodology used in the above mentioned audits have had sig-

nificant control benefits, the Social Security SECEX understood that advances in methodology would be required for a more effective identification of irregularities and fraud. In this regard, these technologies are under development at the technical data analysis secretariats that integrate analysis models. That is, models that assess the business rule, abnormal patterns and social networks among others which are ultimately integrated and start to produce a ranking of the benefits in which irregularities are more likely to occur. This methodology currently in the implementation phase will translate into and advance towards audit efforts and the identification of problems that usually are not detected by conventional audits.

6. MONITORING VIA SIAFI - 1997

The use of SIAFI as an inspection support tool began in the 1990s and had its main milestone in Ordinance No. 31-SEGECEX of 12.01.1997, which provided for Monitoring via SIAFI within TCU.

This monitoring aimed to inspect accounting, financial, budgetary, operational, and property management – from the standpoints of legality and cost-effectiveness, as it was being implemented by agencies and entities of the System and was based on a script of routines divided into three different phases, namely:

1. Preliminary survey, in which basic data and specific legislation of the unit to be monitored was obtained;
2. Initial analysis and periodic review, which aimed to disclose the transactions carried out by the management unit prior to monitoring, as well as the monthly examination of its summary records through the analysis of accounting and financial statements; and
3. Monitoring of the management unit's initiatives, which entailed the concurrent examination of management actions carried out based on sample selection.

Monitoring was carried out based on the information contained in system, which was obtained through terminals or the use of data extractor. With regard to projects and activities of the monitored management unit, auditors verified whether the acts resulting in revenue and expenditure were in compliance with legal provisions; the accuracy of accounting and administrative records; the correct completion of

documents with clear information about the recorded event; whether the use of resources was consistent with the objectives of the agency/entity and the cost-effectiveness principle.

During the monitoring process, the information necessary for the audit was requested by message via SIAFI, signed by the immediate superior and setting the deadline for response. Should failures or irregularities persist the head of the Technical Unit proposed to the rapporteur that an inspection be carried out so that the facts could be examined to the necessary extent. At the end of the accounting period a report was prepared containing the outcome of the inspection, the inadequacies identified and the corrections made. The report was submitted to the rapporteur, proposing that it be attached to the accounts of the respective financial year to inform his/her examination.

4. DATA EXTRACTION FROM SIAFI AND SIAPE - 1998

In parallel to Monitoring via SIAFI, to facilitate implementation the Service for the Evaluation of Public Administration Systems - an arm of SAUDI – developed the Script for Data Extraction from SIAFI (Ordinance No. 4-SEGECEX of 01/29/1998), which at the time aimed to meet the expectations of many users at TCU seeking information that was essential for exercising Government Audit. These data were scattered across SIAFI, thus hindering access to information.

Along the lines of the Script for Data Extraction from SIAFI, another script was developed focused on the extraction of data from SIAPE, to support the work of auditors responsible for carrying out personnel audits in agencies and entities that used the system (Ordinance No. 05 - SEGECEX of 01/29/1998).

5. GOVERNMENT AUDIT INTELLIGENCE AND SUPPORT SYSTEM (SINTESE) – 2003

In 2003 TCU began to plan the specifications for a Data Warehouse (DW) that contained essential information for control, especially information from SIAFI and SIASG (OS No. 05/2003 - Presidency). The first attempt to develop this tool included hiring services through the Inter-American Development Bank (IDB). As this initiative failed, TCU decided to hire the Federal Data Processing Service (SERPRO), the company that owns the SIAFI and SIASG databases,

to develop software capable of extracting data from these systems by converting them into an appropriate format for use by TCU. The tool also had the ability to structure information in a multidimensional model, allowing its use through OLAP (online analytical processing). In November 2004 SERPRO delivered to TCU the first prototype for testing and in 2007 the Data Warehouse was put into operation with data from these two systems plus data from the Clientele system belonging to TCU.

The Data Warehouse, also called SINTESE, had a high level of complexity as it was the only DW that dealt with six SIAFI exercises within the same data model. This system had 172 tables, 995 indices and more than 1,500 attributes, in addition to a large amount of information, since there were already 1.5 billion SIAFI entries.

The aim of SINTESE was to improve the planning of control actions by identifying areas requiring more action by the Court, considering risk, materiality and relevance requirements, besides performing electronic Government Audit based on information from various systems and the crossing of said information, and detecting signs of fraud through information processing.

From the user’s point of view, another advantage of the DW was the fact that it offered a user-friendly interface, with the possibility of search structured by code or text; cross-sectional analysis that enabled, for example, comparing the purchase

of the same object by different agencies and entities; temporal analysis by comparing information from various years; multidimensional analysis such as the analysis of contracts by vendor, company owners, contracting entities, etc; variation in the depth of the analysis through drill up operations (by accessing more aggregate data) or drill down (by accessing less aggregate data); and integration of information from multiple systems.

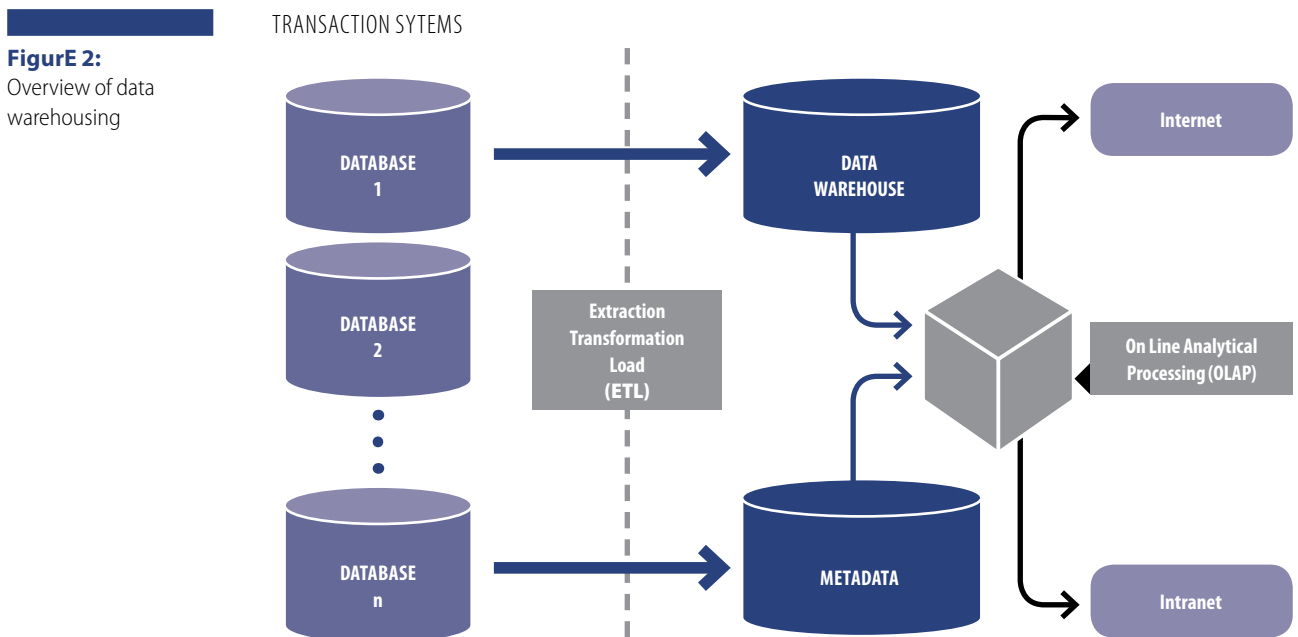
In March 2011 SINTESE received the final batch of updates and was discontinued in 2012 due especially to its high cost for TCU; little use by end users due to lack of culture in the use of data; and lack of knowledge about the needs of the end user’s work process.

The development of SINTESE enabled SERPRO to offer various solutions based on DW technology to multiple clients (DW Debt, DW Payment and Managerial Treasury).

6. GOVERNMENT AUDIT INTELLIGENCE AND SUPPORT SYSTEM

6.1 STRATEGIC INFORMATION MANAGEMENT (SGI AND DGI) - 2005

In the wake of data processing and aiming at the management and design of control strategies, in 2005 TCU created the Strategic Information Management Service for Government Audit Actions (SGI) (Ordinance - TCU No. 142, 08/08/2005), within the Gov-



ernment Audit Secretariat (SEGECEX). This service aimed to manage strategic information for government audit actions; assist in the internal coordination of a network for the production of strategic information; and interact with other government agencies in the establishment of a network for the exchange and sharing of information and strategic knowledge to support control actions.

At the time, some of the main duties of SGI included assisting in the design of risk analysis methodology and in the development, implementation, monitoring and evaluation of the audit plan.

In 2011 the service was transformed into a division of the Under Secretariat of Planning and Procedures (ADPLAN), a unit belonging to SEGECEX (Ordinance SEGECEX-1, 01/06/2011). The following year, the division became part of the structure of the Under Secretariat-General of Government Audit (ADGEXCEX) (TCU Ordinance No. 67 of 02/27/2013) which had among other duties obtaining, organizing and managing strategic information for inspection actions; promoting coordination with other agencies and entities related to public management control; managing and ensuring the updating of information bases relating to their area of operation; and coordinating initiatives relating to Government Audit intelligence.

More recently, in 2013, the Court enacted Resolution No. 256/2013, which changed the organizational structure of SEGECEX. At that time, the Secretariat of Support for Government Audit Management (SEGEST) was created with the aim, *inter alia*, to carry out intelligence activities and obtain, organize and manage strategic information for Government Audit actions. As a result of said Resolution, DGI became part of the structure of SEGEST, which in 2014 defined the responsibilities of that division, which included, especially, defining, organizing and disseminating strategic information to inform the planning and implementation of Government Audit actions and support the Court's technical units in the exercise of Government Audit, particularly with regard to the processing and analysis of information bases.

6.2 PUBLIC DATA ANALYSIS SYSTEM (ADP) - 2010

In 2010 the Information Technology Audit Secretariat (SEFTI) developed a work process to track publications in the Federal Official Gazette (DOU) on procurement notices or excerpts of IT service contracts. This activity was carried out through searches

aimed at locating on the national press website, matters published in the Official Gazette containing any words from a list of IT-related keywords. In the initial analysis the auditors selected matters that suggested any sign of irregularity, which were then subjected to further study based on additional information from the notice or the contract or from contact with the procurement or IT areas in the contracting agency.

However, the search based on keywords proved little effective with regard to variations in the descriptive text of the matter published in the Official Gazette. These variations in wording resulted, on the one hand, in the selection of a large number of irrelevant matters and, on the other, in the loss of several others that contained, in fact, something of interest.

The inconsistencies, which were constant and interfered with the quality of the results, led SEFTI to work in partnership with the Information Technology Secretariat (SETEC) to improve the work process, so as to ensure greater sensitivity to the search for the selected terms and enlarge the scope of the search. The effort of both secretariats resulted in a system able to obtain the full version of the Gazette, logically decompose each publication and identify metadata by inference regarding text organization, format or font.

The result produced by the new tool was a structured database, since the searches began to identify various material attributes such as: date, agency/entity, type of matter (such as "procurement notices", "contract excerpts", "eligibility results" or "addenda", among many others); identification of the act and specific fields such as "description of the object", Individual Taxpayer ID Number or National Register of Legal Entities contained in the matter; monetary values mentioned; and even a classification of subjects based on a rich list of keywords with variations thereof (plural, presence or absence of accents, including the most common spelling errors).

Since this remodeling, database searches have become much more significant and reliable, enabling the quick identification of relevant matters published in the Official Gazette. In addition to this improvement, an interface was designed for searching and visualizing these data, known as ADP or "Official Public Data" and available at: <https://contas.tcu.gov.br/adp/procura>.

This website, however, contains only matters published until 2013. More recent data can be accessed through the standard search interface of the corporate TCU portal at: <http://portal2.tcu.gov.br/>

portal/page/portal/TCU/corporate. Further details on recent uses of the tool are available in Decision 813/2014-TCU-Plenary.

6.3 SEFTI OBSERVATORY AND CONTROL PANEL - 2012

When it was created in 2006, SEFTI planned to conduct five surveys to structure its activities. One of these surveys sought a permanent way to obtain information that was relevant and essential to the business of the secretariat. This search resulted in the creation of the SEFTI Observatory (Decision 1496/2012-Plenary-TCU), a tool that was presented in a plenary session by Justice Augusto Sherman on September 27, 2012.

This Observatory – which was born out of a collaborative effort between ADPLAN and SEFTI and relied on data from the Government Audit Knowledge Repository, a data warehouse developed by DGI - consisted of a set of information providing quantitative and temporal views of federal public actions in information technology regarding the evolution of the amounts spent on IT goods and services by the Federal Public Administration (APF). This information, combined with data analysis, allowed TCU to have a broader view of public IT actions, follow the evolution of the amounts spent in goods and services and obtain other information that is relevant to the business of SEFTI.

The main purpose of the Observatory was to assist in the planning of control actions carried out by TCU in general and by SEFTI in particular. It was implemented in the form of a dashboard using the QlikView Business Discovery, and presented, in a dynamic format, expenditures on IT grouped by agency/entity, management unit, programs, and actions among others. The technology enabled viewing and interpreting large databases through the construction, by users themselves, of views and cutouts built from graphs.

The data presented here were taken from official databases, particularly from SIAFI and SIASG. The central metric used in the SEFTI Observatory was expenditures on IT. This metric was built according to a set of criteria that took into account, among other factors, sub-elements of expenditure specific for IT goods and services, to which the outlay is associated.

In December 2013 the SEFTI Observatory was selected by the People Management Committee of

TCU as one of the innovative initiatives implemented by the Court.

6.4 CONTROL PANEL - 2013

The experience of SEFTI led to the creation of the Control Panel, a tool developed to support the management of audit activities and decision-making based on the use of information produced within the scope of the internal actions of the Court, as well as information arising from the federal government to which the TCU has access by reason of its constitutional and legal powers.

The Panel provides internal information related to the inspection, investigation and trial of Government Audit proceedings and on compliance with the institutional goals of the Court. Through the Panel one can track activities in progress, areas and institutions under inspection and the georeferenced distribution of these inspections across the country.

In it, external data relate to the budget and financial execution of the institutions included the Federal Budget and to voluntary transfers such as Transfer Agreements and Contracts. The primary metric used refers to the expenses of Federal Government agencies and entities. To that end, the Panel uses SIAFI as a primary source of data. Therefore, the expenses considered therein are limited to those incurred by institutions of the federal direct public administration, autonomous agencies and foundations, whose expenses are contained in that system.

To facilitate reading the information, cross-cutting views of these expenses have been defined according to their nature, with an emphasis on: IT; per diem; travel fares and commuting expenses; civil works; outsourcing and labor costs; consumables; consulting; and other third party services and corporate card. Each cross-sectional view is built from rules that define an expense as relevant to that view.

In addition to enabling the timely observation of federal government spending, the Panel also provides interactive screens with official indicators such as the Basic Education Development Index (IDEB), the Human Development Index (HDI), per capita income, and infant mortality rates among others. Thus, the system enables analyzing, in a graphic and georeferenced way, the allocation of federal funds to states and municipalities as well as the results achieved.

The use of the Business Discovery technology, as it is used by the Observatory, materialized in dash-

boards in the QlikView tool, enables providing data and information to Court authorities and staff in the form of panels that facilitate the visualization and interpretation of contents. These panels can be viewed on computer terminals and on TVs, which have been purchased for this purpose.

This tool has reinforced the strategic vision adopted by the Court, which is focused on citizens, on the services provided to them, on the governance of these services, and on the measurement of results.

The President of the TCU, Justice Augusto Nardes, officially presented the Control Panel during the plenary session of November 13, 2013.

7. CONCLUSION

Over the past 20 years TCU has sought, in various areas and different forms, to collect and process data to generate useful information and knowledge for the exercise of Government Audit. Some of these initiatives have achieved the desired objective. Others, however, have failed to achieve the expected success, due particularly to the low level of compliance by end users, insufficient culture in the use of data, and lack of knowledge about the needs of the end users' work process.

Today, however, the Court is able to anticipate the strengthening of data collection and processing. This expectation is combined with a new era, which will naturally encourage and induce control through the use of information technology, since some once non-existent requirements have now become part of the work routines. The Always On culture that we experience today, coupled with the strategy of and the need for internal expertise favors the use and the permanent and continuous processing of data in various units and audit actions of TCU. Activities such as those carried out by SEFIP, which are strongly based on data collection and processing, are beginning to be replicated and expanded in various areas of Government Audit. The Social Security SECEX initiative is proof of that change. The inspection of public procurement, for example, under the responsibility of the Logistics Procurement Secretariat (SELOG), also has great evolutionary potential through the use of technologies such as Big Data Analytics, continuous audit and monitoring, predictive audit, etc., including the prevention, detection and investigation of fraud, since much of its control object is registered and stored in systems like SIAFI, SIASG and Comprasnet.

This unquestionable optimization of control through information technology tools has the potential to offer the most varied benefits to TCU units, such as leveraging results and improving the capacity to assess programs and government actions and detect irregularities and fraud. Like the 1988 Federal Constitution, by expanding the Court's audit jurisdiction the use of IT can translate into increased Government Audit quality, as it brings significant advances and expands the boundaries of information collection and use.

The following persons have contributed to this article: Alessandro Giuberti Laranja, Chen Wen Lin, Erick Muzart, Fábio Henrique Granja, Mauro Giacobbo, Roberta Ribeiro de Queiroz Martins, Remis Balaniuk, Shirley Gildene, and Tina Evaristo.

