



## **The use of Information and Communication Technologies to improve Public Service Delivery and recognition of citizen rights**

Rodrigo Ortiz D'Avila Assumpção<sup>1</sup>

### **1. Expansion of the use of ICT for public service delivery.**

Promoting citizen access to public services is a huge challenge for all governments. In order to face this task, focusing on the last two decades, we can affirm that many governments have invested more and more in the use of information and communication technology (ICT) to expand service delivery and enable citizens to have access to public services and assets, especially when the focus is the recognition of their rights rather than the demand of duties.

In Brazil, this effort becomes clearer after 2003 when the Government decides to outline a series of pointers and guidelines to expand services and access to them. During this time, more services become available on the internet and there is an increase in the installation and maintenance of community and public centers where internet access is free. These are commonly called telecenters.

All these activities have enabled the design of a new Electronic Government policy which works in three different areas: closely with citizens to improve its own internal management; and to integrate partners and suppliers<sup>2</sup>.

It is important to mention that nowadays the Brazilian Electronic Government Program as described in the Electronic Government Portal, represents a transformation of the Federal Government relations with citizens, companies and other governmental bodies to improve the quality of services provided; promoting interaction with companies and industries; strengthening participation of citizens through the access to information and a more efficient administration.

The Brazilian Electronic Government Program has an Executive Committee and eight Technical Committees responsible for the development of policies and actions as defined in the principles and guidelines created for all Federal Public Administration.

The Executive Committee was created by the Presidential Decree dated October 18, 2000. The Ministry of Planning, Budget and Management acts as the Executive Secretariat and ensures the technical-administrative support necessary for the Committee to work.

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<sup>1</sup> Majored in History and is a Master of Communication Sciences by the University of São Paulo (USP), with dissertation on Digital Inclusion. Worked as an educator at Instituto Cajamar, was coordinator of the Electronic Government of the Santo André-SP city hall and director of the following NGOs located in São Paulo: Instituto Florestan Fernandes and Sampa.org, focusing on Digital Inclusion projects. In 2003 became Assistant Secretary of Information Logistics and Technology at the Ministry of Planning, Budget and Management. In December 2008 was appointed president of the Social Security Data Processing Company (Dataprev).

<sup>2</sup> BRASIL. Electronic Government. Available at [www.governoeletronico.gov.br](http://www.governoeletronico.gov.br). Accessed on Dec 29, 2009.

The Technical Committees were created on October 29, 2003 and they work in the following areas:

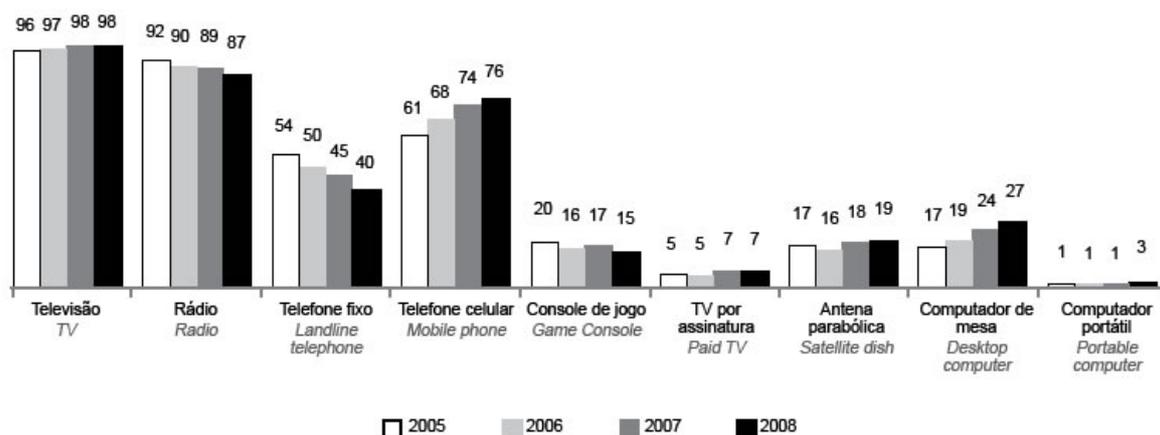
- Implementation of Free and Open Software;
- Digital Inclusion;
- Systems Integration;
- Legacy Systems and Software Licenses;
- Site management and online services;
- Network Infrastructure;
- Government to Government (G2g);
- Knowledge Management and Strategic Information.

## 1.2. The national access to services provided through ICT.

There are 54 million internet users in Brazil (in 2008)<sup>3</sup>. The difference between this number and the number the year before is more than 10 million plus users. Part of this advance is due to the Brazilian government's policies to encourage equipment purchase. It is relevant to mention here programs such as Computer for All and other initiatives focused on expanding network coverage.

As can be seen below, 27% of all urban residences in Brazil today have a desktop. In 2005, this percentage was only 17%. The graph shows the increased number of people who own this equipment and it is important to mention that while the purchase of traditional pieces of equipment such as radio and land lines decrease, the ones that allow access to new media (cellular phones and computers) rapidly grows.

Graph – Rate of households that own ICT equipment (%). Percentage over total households in urban area<sup>4</sup>



<sup>3</sup> Brazilian Internet Steering Committee. SURVEY ON THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN BRAZIL 2008, page 46. Available at [www.cgi.br](http://www.cgi.br)

<sup>4</sup> Brazilian Internet Steering Committee. SURVEY ON THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN BRAZIL 2008, page 139. Available at [www.cgi.br](http://www.cgi.br)

## 2. Social Security

That is why the Social Security Data Processing Company (Dataprev) has prepared itself continuously to manage, process, store and cross reference all Brazilians' social data.

Dataprev is the ICT provider of the Social Security Triad composed also by the coordinating Ministry of Social Security and the operational National Social Security Institute. This structure consists a public institution whose goal is to recognize and guarantee rights to insured persons. The income transferred from Social Security is used to replace the income of the contributing worker when he can no longer work either due to a disease, disability, old age, death, involuntary unemployment as well as maternity and forced reclusion.

The Ministry of Social Security is responsible for defining the policies concerning Social Security for all contributors as well as supervising voluntary pension funds.

### **National Social Security Institute (INSS)**

Was created as a self-administered public entity on June 27, 1990 through Decree n° 99.350, that authorized the merging of the Institute for Administration of Social Well-fare and Assistance (IAPAS) with the National Institute of Social Security (INPS), with all the characteristics proposed by Decree n° 200/67 linked to the Ministry of Social Insurance MPAS, currently Ministry of Social Security – MPS.

It is the INSS' responsibility to operate the recognition of rights of the contributors of the General Regime of Social Security - RGPS. Article 201 of the Brazilian Federal Constitution mention the organization of the RGPS, its contributive function and the work performed by INSS, respecting the government policies and strategies of hierarchically superior bodies such as the MPS.

The National Social Security Institute is a public social insurance service provider for all Brazilian citizens. In this context and with the goal of increasing the quality of services to these citizens, the Institute has been searching for continuous improvement alternatives such as modernization programs and systems that help achieve the overall acceptance of society.

### **Social Security Data Processing Company (Dataprev)**

Dataprev was founded in 1974 and originated from the data processing centers of the existing social security institutes at the time. It is a public company created by Law n° 6.125, dated November 4, 1974, and is linked to the Ministry of Social Security.

#### **Mission**

Provide information and communication technology solutions for the execution and the improvement of Brazilian Social Policies

#### **Vision**

Be the main provider of technological solutions for the management of social security, labor, social and civil registry information of the Brazilian population

Dataprev's main client is the National Social Security Institute (INSS) and it processes every month the largest payroll in Latin America with more than 27 million payments.

With more than 3.400 employees, 27 Regional Units (one in each Brazilian State Capital), 5 Software Development Units and three Data Centers the company's focus is on the citizen. Using the information and communication technologies to ensure citizenship rights, Dataprev actively participated in the development and implementation of several citizen focused services like the 30 minutes Retirement Benefit Service, launched in January 2009.

## **Processing Centers**

**Brasilia-DF Data Center (CPDF)**- is the most recent of the three data centers and is located in an annex to the company headquarters in Brasilia. It was opened on December 29, 2005 although some activities in the area were performed since the 80's.

The HP Superdome Data Base servers are in this building and these provide support to the new Social Security systems allowing all information generated on the site in Rio de Janeiro to be simultaneously stored in Brasilia. Apart from this, the infrastructure holds various other systems and applications developed in a low platform environment such as the Security Portal and The Social Security School among others. Since August 2009 it also hosts the Presidential Blog.

**Rio de Janeiro Data Center (CPRJ)** – it is the largest Data Center. It is located in Rio de Janeiro, and hosts the system that generates the National Social Security Institute (INSS) benefits payroll every month. It also hosts the National Registry of Social Information (CNIS) with more than 14 billion data registries including information on persons payments and companies among other information.

This center also hosts the Ministry of Labor and Employment (MTE) systems on equipment that runs redundant with the São Paulo center.

**São Paulo Data Center (CPSP)** - It is dedicated to processing the systems of the Brazilian Federal Internal Revenue related to the old Social Security Revenue. Services like demanding payments, executable debts, Certificates of Good Standing (CND) and others are hosted there.

As far as processing is concerned, CPSP manages the IBM pSeries 690 Regatta, responsible for storing all the database systems of the Disability Benefits Management System (Sabi). This system allows, amongst other things, the access to INSS accredited doctors 24 hours a day, keeping appointments for the insured persons who will undergo medical exams and monthly storage of thousands of petitions for sickness assistance payments.

Still in the Benefits area of business, CPSP hosts all the databases for the Project dedicated to Regionalize Information and Systems (Prisma), which is the system responsible for the granting, updating and revisioning of all social security benefits that are not paid due to disability. It also hosts systems run by the Ministry of Labor and Employment and works together with Rio de Janeiro.

**Regional Units** – are responsible for the operational and technical support to clients in the regions. There are 27 units in the country, one in each state capital. The main goal is to meet contractual requirements and to ensure both our clients' and the Social Security's actions are successful, according to Dataprev's guidelines and contracts.

**Software development units** – In order to provide support to the company's development sector, Dataprev created in 2006 the Software Development Units (UDs). They are located in Fortaleza (CE), João Pessoa (PB), Rio de Janeiro (RJ) and Florianópolis (SC).

Apart from this, on the first semester in 2009, Dataprev also created a Free Software Development Unit (UDSL). The objective is to integrate even more the use of free and open software in the company's productive process which will contribute to the platform migration process the company is going through. However, this is not a fixed unit. It has employees from many states working together in open code products.

**Services** – Amongst the main services offered by Dataprev are the development of systems, operational sustainability, communication and data network management, information processing, management and treatment related to projects and proposal of technological updates.

Some of our clients are the National Social Security Institute (INSS), Social Security Ministry, Ministry of Labor and Employment, Federal Internal Revenue, Financial institutions, public and private companies.

Information management for these clients cover:

- 14 billion data in the CNIS bases;
- 27 million payments processed per month;
- 7 million Social Security vouchers processed every month;
- 58 thousand email boxes managed;
- 49,4 thousand pieces of equipment connected to the Social Security network;

## **2.1. Technological Modernization ensuring citizenship to Brazilians.**

Technological Modernization is the most important current effort in progress at Dataprev. The process involves three main actions: migrating the data and systems from the mainframes to open platforms; modernization of the National Registry of Social Information (CNIS); and the development of the first phase of the Integrated Benefits System (Sibe 1).

Consulting companies state that the migrating process currently in progress at Dataprev is the largest of its kind in the world. It involves 7.2 million code lines and approximately 70 systems which are migrating from the high platform to the low. The Cobol language is all being rewritten to Java and data will be stored in relational banks. All programs that are critical to the National Social Security Institute (INSS) and Federal Internal Revenue and all relevant software that provide support to the Brazilian Social Security business are being migrated.

Technological modernization is a huge and complex project, planned many years ago and with many aspects such as the end of Dataprev's technological dependency on mainframes and their technology. The objective is also to document all systems so that it is possible to increase the maintenance and evolution capacity, meet the growing and changing demands of the clients who want to adapt to the reality of service delivery in the country.

It is estimated that, with this modernization, Dataprev will also be able to modernize its systems, deal with other government databases and search for information needed in real time to better quali-

fy the services and promote a higher quality of service. Most of the information is already in the company.

This modernization process will place the Social Security Institute in the 21st century as far as technology is concerned. At the end of the process we will have a great number of centralized software programs all consolidated, reliable and with a benefits management system that will meet the standards of the best electronic governments in the world. From that point, the Social Security Institute, Federal Internal revenue, Ministry of Labor and Employment and other Dataprev clients will design the planning of their services and have them executed in a more adequate and reasonable time frame.

### ***Control***

The actions are followed by oversight bodies since the beginning. Every month the company meets with the Federal Court of Auditors (TCU) to present the progress on the program which estimates all technology platforms to be delivered until 2010.

### ***What is Dataprev in fact migrating?***

Since last year Dataprev is working on the migration of all large benefits systems hosted in the Unisys mainframe called CV3, as well as all systems of the Brazilian Federal Internal Revenue related to the old social security revenue (located in the Unisys mainframe called MV2). Apart from this, the company is also migrating other services being processed in a high platform called CV2, where the basis of the National Registry Social Information (CNIS) is. Both CV2 and CV3 are located in the Rio de Janeiro Data Center (CPRJ). MV2 is located in the Data Center in São Paulo.

## **2.2. The largest social registry in Latin America**

It is Dataprev's responsibility to maintain and protect the largest social registry of Latin America – the National Registry of Social Information (CNIS). CNIS is the system responsible for controlling the information of all insured persons and Social Security Contributors. Since its creation in 1989, it has stored information used to ensure labor and social security rights of the Brazilian citizens.

Apart from allowing the automatic recognition of social security rights, CNIS makes it difficult for illegal benefits to be granted, allows for a better control of payments received and provides the numbers that help better plan public policies.

Inside Dataprev's computers there are more than 216 million information entries on persons and companies, 530 million on labor relations, 14 billion information entries on payments and other 2 billion entries on security payments.

**Processing** – In order to create CNIS, Dataprev receives and processes the content received from various governmental bodies. The individual taxpayer number for example, is formed by a combination of data sent by Caixa Econômica Federal, from the Social Integration Program (PIS); Banco do Brasil from the Public Service Employee Savings Program (Pasep); and by the Social Security itself when dealing with individual contributors, household employees, special insured persons, optioned or beneficiaries<sup>5</sup>.

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<sup>5</sup> PIS is for people that work with private companies and PASEP for the public service workers. To receive the benefits of both programs the employee must be registered by the employer when he is hired in his first job

The Corporate Taxpayer's Numbers are kept with the data sent by the Brazilian Federal Internal Revenue and from data received by the Social Security Specific Registry (CEI) that organizes and stores information from taxpayers since the beginning of the company's activities.

The information is related to links and payments from the Social Security Information Form (GFIP), Annual Listing of Employees and Salaries (Rais), General Registry of the Employed and Unemployed (Caged), as well as updated information on payments made via Social Security Payment Slips (GPS).

This content is stored in four large databases according to its nature and are updated via various on-line processes and applications available on the internet for insured persons to use. For the INSS employees that work with the public at the Social Security agencies, this content can be accessed via the Internal Social Security Systems (Intranet).

### 3. The role of social security on E-gov actions.

Since the electronic government became a reality for most of the Brazilian population, the search for information related to social security and assistance on the internet has also become a reality. Among the people that searched for information related to the subject in 2008, 16% wanted more information on Social Security and 11% accessed the electronic government sites to subscribe for the Social Security<sup>6</sup>.

Nowadays when the federal government page is accessed on [www.brasil.gov.br](http://www.brasil.gov.br), the services related to Social Security are highlighted as they are one of the most popular links.

The screenshot displays the homepage of the Brazilian Federal Government website. At the top, there is a navigation bar with the text 'Brasil República Federativa do Brasil' and a search bar. Below the navigation bar, there are several sections:

- Notícias:** A section with three news items: 'Em junho, vendas do varejo crescem 1,7%', 'Lucro de R\$ 4 bi leva Banco do Brasil a retomar liderança', and 'Mantega: Desempenho dos bancos públicos e crescimento do comércio varejista confirmam recuperação da economia'. A link 'Veja a lista completa >>' is at the bottom.
- Serviços mais procurados:** A list of popular services including 'Consulta Situação Cadastral Pessoa Física - CPF', 'Aposentadoria por idade', 'Andamento de processos de concessão inicial de benefícios', 'Aposentadoria especial', 'Andamento de processos de revisão de benefícios', 'Auxílio-doença', 'Concursos', 'Serviço de informações científicas em saúde pública', 'Aposentadoria por invalidez', and 'Bulário Eletrônico'. A link 'Veja mais serviços >>' is at the bottom.
- Educação:** A section with a banner 'BRASIL PRESENTE INVESTIR EM EDUCAÇÃO E CUIDAR DO FUTURO' and a sub-section 'Campanha Bibliotecas' with the text 'Sua cidade não tem biblioteca pública municipal? Informe-se aqui.' and a link 'Restauração' with the text 'Iniciativa visa à preservação de parte essencial da história da Capital'.
- Other sections:** 'CADERNO DESTAQUES', '8º BALANÇO PAC', 'PORTAL Federativo', and 'São mais de 140 desaparecidos políticos no Brasil.'

At the bottom of the page, there is a copyright notice: '© 2005-2007 Governo Federal - Todos os direitos reservados.'

<sup>6</sup> Brazilian Internet Steering Committee. SURVEY ON THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN BRAZIL 2008, page 265. Available at [www.cgi.br](http://www.cgi.br)

## **Online social security.**

Due to the actions taken by the Ministry of Social Security and the National Social Security Institute (INSS), Dataprev's biggest client, it is possible to access 17 online services via the portal [Portal da Previdência Social](#), eliminating the need to go to any of the 1.122 Social Security branches, the portal has about 1.7 million monthly accesses.

Services such as requesting assistance with disease benefits and pensions due to death, rescheduling and confirmation of appointments and electronic confirmation of appointments at the Social Security branches can be done via the internet. If the person does not have internet access, the same requests can be made by calling the phone number 135. All services use software developed by Dataprev, including the Electronic Scheduling System (SAE), responsible for the reduction of the long waiting lines at the social security branches.

### **3.1. Technology drives better services**

#### *Shorter lines*

The reduction on lines outside the Social Security branches (APS) was possible through the development of two systems responsible for scheduling appointments and managing the schedules at these branches. They are named Electronic Scheduling System and Scheduling Management System

Working in an integrated fashion, the systems changed a scenario which was common a few years ago: huge lines outside the branches that often started in the early morning hours.

SAE is responsible for scheduling the appointments via internet and the 135 phone number. Insured persons are given a date and time pre-scheduled and do not need to get in line or get a number to set appointments anymore.

Implemented in more than 1.1 thousand braches, SGA provides a detailed map of the status of the services provided making it easy for the National Social Security Institute (INSS) to make a decision in case there is a delay or a cancelation.

Apart from this, SGA automatically confirms the attendance of the insured person to the branch allowing the managers to follow up on the performance of each branch. The development and integration of these two systems was of paramount importance to allow retirement benefits to be granted in 30 minutes.

#### *Retirement in 30 minutes*

Dataprev has a very important role in the granting of urban retirement per age, length of contributions and maternity leave payments within 30 minutes (service launched on January 27, 2009 by the Brazilian government). The company's infrastructure allows the Social Security National Institute to have access online and in real time to all databases of the National Registry of Social Information allowing the visualization of the insurer's payment.

Integrated to CNIS, the Benefits System allowed the INSS employee to spend minimum time inputting data. This improvement together with the fact that all systems are online allows the benefits to be granted immediately.

### ***Social Security Statement for bank clients***

Available for all 28 million Bank of Brazil account holders since May 5, 2009, the Social Security Statement shows information on the professional relationships since 1976 and on payments since July 1994. With this service, the government intends to be more transparent as far as the information related to labor relations of Brazilian citizens are concerned allowing for corrections and data inclusions to be made before retirement. It also allows the citizen to check on his/her social security situation.

In order to allow the document to be made available at the Bank of Brazil ATM machines, Dataprev implemented a communication protocol able to transmit in real time the information between the company and the bank via a private and safe channel. The option to customize this protocol and to use the same technology adopted by the bank to transfer data, considered the security and speed necessary for the operation.

When swiping the card at a cash machine or accessing the bank's page on the internet, the system identifies the citizen by checking personal information such as date of birth and individual taxpayer number then the statement is printed within a few seconds.

Dataprev is working now to make the same service available to Caixa Econômica Federal and the private banks. By doing this, the citizen will have one more channel where he can follow up on the payment of the labor contributions each month.

### ***Pre-retirement Letter***

The service of sending a letter to insured persons that reach minimum conditions to retire started being on June 24, 2009. The letter which is a Notice to Request the Benefit, is generated from the National Registry of Social Information (CNIS) database and arrives the month before the contributor's birthday. It not only informs the right to the benefit but also lists the documents necessary that need to be taken to the branch and the estimated amount that will be paid.

To generate the document that makes the contributor's life simpler, a complex system was developed in less than three months by Dataprev, which is also responsible for the infrastructure that keeps the service running as well as the printing, sending and generating reports to the Social Security National Institute (INSS).

From the CNIS database where information of 180 million taxpayers is available to the posting of the letter by mail, various filters are applied to ensure the citizen really meets all the requirements to be entitled to retirement.

### ***Immigrant workers also have their rights guaranteed***

Amongst the actions by the Social Security Institute to use technologies beyond borders, the International Agreement Systems (Siaci) available since July 2008 rapidly transmits via internet, the forms needed to exchange information on years worked and concession of benefits for all workers migrating from the Mercosul countries – Brazil, Argentina, Paraguay and Uruguay. Its use allows the workers who are outside the country to get their benefit payments in their cities of origin through a legal representative.

Operating with free software, Siaci controls the protocol data related to the documents sent and received. At any time it is possible to consult and check the transactions made, reducing the period necessary obtain the benefits, improving the quality of service without compromising the security and confidentiality of information.

The tool was created following the Mercosul Multilateral Social Security Agreement signed in 2005 by INSS and the social security institutions of the other three countries. The document stated that workers from Brazil, Argentina, Uruguay and Paraguay can include the time they have worked in another country in the calculation for retirement so apart from benefits, retirement due to disability also became possible. This tool will now be used by all Ibero-american countries.

#### **4. Serving the Presidency, Brazil and the Brazilians.**

The challenges faced by Brazil for the integration and inter-operation of systems puts Dataprev at a privileged position in search for solutions to consolidate the social data of the Brazilian population.

The fact that Brazil does not have a unique registry which includes all civil registry information, individual taxpayer numbers, driving licenses amongst other databases, opens the discussion of whether the inter-operation of systems and integration of social registries is crucial.

Aware of this need, Dataprev, responsible for the largest social registry of the country – CNIS, under the guidelines of the Ministry of Social Security and the National Social Security Institute (INSS) works on solutions capable of integrating various social data, especially the ones that strengthen the role of Social Security. This guideline has led the company to reflect about the paths to be taken and which clients can be more strategic towards this goal.

Among the more recent solutions for the Civil Registry Information System (Sirc), the National Registry of Information on Government Social Security Regimes<sup>7</sup> (CNIS-RPPS) and the modernization of the Online Obituary Control System (Sisobi online).

The Civil Registry Information System (Sirc) is in its planning phase with INSS and the public notaries responsible for the registry of births, marriages and deaths. Sirc will be integrated to the Online Obituary Control System (Sisobi).

The objective of this scheme is to introduce computerized and standardized mechanisms to exchange information between notaries and the public offices. The system will allow the shared management of this information between the Executive and the Judicial areas and will ensure the bodies that already have access to this information to expand this access to other bodies of the government for the management of public policies.

Another initiative helped by this action is the Online Sisobi Project which will have in real time the data that is part of the systems database and will notify the Social Security that a death of a beneficiary has occurred. The online verification of this information will promote huge savings of public money. With the information from Sisobi, 24 thousand people have their benefits ceased every month which generates savings of approximately R\$ 12.5 millions.

With this in mind and in search for more operations, CNIS-RPPS will favor data integration of all social security regimes whether they are municipal, state and/or federal. In order to do this, the project will use the Social Security System (Siprev). Joining these two solutions will allow the confirmation of all available databases of Social Security and will make it available for all managers of the various regimes as well as strengthen CNIS and allow the investigation of irregularities and illegal payments more accurately.

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<sup>7</sup> Brazilian Social Security consists of two main pillars: basic regimes and Complementary Security. The Social Security General Regime (RGPS), **for employees that work in the private sector, managed by INSS. This Regime managed by INSS is compulsory and the updated annually** (see site [www.previdencia.gov.br](http://www.previdencia.gov.br)), works with the private sector: Companies, employees, maids, independent professionals and rural employees contribute to this system with their payments. In RGPS companies and workers pay 22% - tax over sales - and 11%, respectively. The Social Security Proper Regimes (RPPS), are for public employees. This Regime is compulsory and the limits are defined by Constitutional Amendment 41, and employees that work at public companies and temporary employees that are covered by RGPS are excluded from this group.

For the adequate planning and execution of public policies information and communication technologies are of paramount importance. In Brazil Social Security has been instrumental in confirming this crucial role of ICT in this scenario of expanding transparency, accountability and access to public services, inherent to implementing citizen centered public policies.

Rodrigo Ortiz Assumpção

[rodrigo.assumpcao@previdencia.gov.br](mailto:rodrigo.assumpcao@previdencia.gov.br)

**Presidente**

**Dataprev-** Empresa de Tecnologia e Informações da Previdência Social

SAS Quadra 1 Bloco E/F – Brasília – DF – CEP 70070-931

Tel.: 55.61.3262-7100