ELECTRONIC DOCUMENT MANAGEMENT
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A major transformation towards e-government in the Autonomous City of Buenos Aires 2009-2014

Condensed Version

Keywords

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Abstract

From tons of paper to fully digital administrative procedures in the Government of the Autonomous City of Buenos Aires

From 2009 to 2014 the GCABA has launched and implemented **a profound transformation in the management and processing of its administrative record files[1] and documents**. By means of an interdisciplinary project that focused on the systems, the regulatory framework and cultural change the GCABA **has fully eliminated paper** as a recording medium and as means of processing administrative activities thus, achieving a successful **migration to electronic document management.**

Therefore, the implementation of the above project marked the full entrance into the 21st century, moving from the practice to the **actual** implementation of e-Government and Intelligent City concepts. In five years the CGABA moved from a paper-based bureaucracy to having **all of its administrative procedures[2]- more than 1,180- digitally operative,** which are progressively being made accessible to citizens who can currently **operate more than 50 administrative procedures remotely from their households and offices.**

The following elements have allowed *making a difference,* namely:

- the innovation of basing the whole system's rationale and structure on **documents** –and not on procedures, as is usually the case;
- the consolidation of the political, legal and technical will into one single **inter-disciplinary team**;
- the fact that the change process was addressed in a comprehensive manner **completely doing away with paper as an information container**.

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[1] The Spanish term "*expediente*" has been translated as "administrative record file" meaning a collection of documents which form the basis for an administrative decision.
[2] The Spanish term "*trámite*" has been translated as "administrative procedure" and "*tramitar*" as processing, referring to the conduct or handling of an administrative procedure.

The City vis-á-vis the challenge of e-government: from the past into the 21st century in five years in office

"The electronic document management system implemented in the Government of the City involves returning to the roots and essence of what should be understood as public service. I am very pleased to have arrived at this stage and to proudly introduce this huge transformation, the first one of the kind ever to be implemented in Argentina."
Mauricio Macri, Major of GCABA

In this 21st century, **intelligent cities** —based on digital technologies, connectivity, collaborative tools and open government- are no longer a futuristic fantasy but a possible reality.

The new **e-management** or **e-government** paradigm reflects a management conception oriented at satisfying the citizens' needs, leaving bureaucracy behind through the support of information and communication technologies.

When the new administration of GCABA took on the challenge of a modernization that would involve **moving the administration towards an e-government model,** the **starting point** was daunting: tons of paper, precarious systems, control problems, handwritten signatures and registrations, disorderly procedures, scarce use and training in new technologies, lack of information management.

Not only was the starting point many decades backward in time, but also **the dimension, complexity and structure of the City of Buenos Aires actually make it a "City-State":** 3 million residents and another 3.5 million people commuting daily into the city coming both from the Province of Buenos Aires and from other municipalities, 600 buildings dedicated to public administration, approximately 1,200 schools, 125,000 public officials, 55,000 system users, 25 million annual transactions and 15 million annual documents.

The chances of a major transformation appeared very remote, however, in 2009 such transformation was undertaken with strong determination first by the Legal and Technical Secretariat (*Secretaría Legal y Técnica*), and later with the contribution of the Ministry of Modernization that was created to impulse the change process.

The strategy was to aim at a **deeply rooted transformation, from the core of administrative procedures,** by means of a process that involved migrating to electronic document management with GCABA's own systems, equipment and financing. With a long-term outlook, GCABA realized that **it was impossible to effectively interact with its citizens electronically without first solving GCABA's internal management problems**.

EDM System in all administrative procedures [trámites]

1,180 Total administrative procedures	**55,000** No. of Current Users
Transactions	
25,000,000 Annual Total	**95,000** Daily Average
Consultations	
180,000,000 Annual Total	**700,000** Daily Average
Documents	
15,000,000 Annual Total	**1,250,000** Monthly Average	**56,000** Daily Average

A true **electronic document management system**, an essential step towards e-government, involves, apart from going paperless, the establishment of **updated information systems** that will allow using digital tools so as to **speed-up procedures, drive down costs, improve services, increase efficiency and reflect greater transparency**.

In only a few years, GCABA managed to **take great strides** so that, in 2014, **all of the more than 1,180 administrative procedures of**

GCABA are already operated on a fully digital basis. This major transformation in dealing with administrative processing is a key milestone for the City to consolidate as an e-government flagship both in Argentina and on a worldwide scale.

The process started with **simple tools such as the Official Bulletin (*Boletín Oficial*) and Official Communications.** These were the starting points for the introduction of major changes and the development of capacities and projects for new implementations.

The first systems, which progressed hand in hand with a necessary adaptation of the legal framework, opened the way to the currently wide-ranging "EDMS ecosystem", that encompasses a network of modules integrated around the **Electronic Document Management System (EDMS)** (*Sistema de Administración de Documentos Electrónicos) (SADE)* —among them the **e- Administrative Record File** *(Expediente Electrónico)* (*EE*) and the **Official Documentation Digital Generator** *(Generador Electrónico de Documentos Oficiales) (GEDO)*, available to all public officials through a **Single Desktop** (*Escritorio Único*) (*EU*) and with an **e-signature** system that allows for the digital completion all the administrative procedures.

Results of the transformation process implemented by the GCABA towards e-government by means of electronic document management

- Elimination of paper
- Celerity of administrative procedures
- Improvement of internal management and citizen service
- Follow-up of tasks on an administrative procedure basis
- Control of agent performance
- Reduction of malpractices
- Single automated and correlative numeration of all administrative proceedings
- Permanent and instantaneous access to administrative record files (transparency of information)
- Cost savings and higher efficiency in the use of the administration's resources
- Audit by systems
- Interoperability with vertical and transversal systems
- Switching governmental communications to digital documents carrying e-signatures
- Unification of communication types (Memo, Note, Report)
- Elimination of manual registration books
- Technological environment of high IT security
- Enables higher participation by incorporating govern-mental web mail users into the EDMS.
- One Stop Shop (ventanilla única)

Challenging paper not only involved changing the media of information, but also **rethinking the working method and mind-set of thousands of public officials,** resulting in the streamlining and automation of many procedures. Support and training are still vital aspects of a management oriented **at making this structural transformation an endurable contribution that will lay the grounds for a far-reaching, efficient, open and participating e-government**.

Within a five-year period, the swift transformation process not only **left behind piles of paper**, but also immediately **eliminated malpractices, speeding-up processing time and allowing for significant savings in staff, transportation and physical space**.

These and other results are valuable in themselves, **since they add transparency, speed-up and update a public administration that was way back in time and lacked order and control.** But such results are also the starting point for a sustained e-government model, increasingly centered on the needs of citizens and progressively evolving as the twenty-first century unfolds.

New technologies to reform public administration

"Technology is essential to be closer to the people and to make their lives easier, both within and outside the government. We are strongly committed to government modernization, in this case applied to the internal administrative procedures of the city, so as to bring government close to the people, with more modern, state-of-the art, efficient and friendly tools."
Horacio Rodríguez Larreta, Chief of the Cabinet of Ministers of the Government of the Autonomous City of Buenos Aires

Stages of Documentation
Historical evolution of government records and management

First governmental records
Antiquity

First professional governments
Middle Ages

Bureaucracy
19th century

First ICTs. Late 20th century

FRONT OFFICE COMMENCEMENT OF THE ADMINISTRATIVE RECORD FILE
DIGITAL

BACK OFFICE PROCESSING
PAPER

FRONT OFFICE ARCHIVE/CONSULTATION
DIGITAL/PAPER

DIVISIONS/DECISIONS

e-Government. 21st century

FRONT OFFICE COMMENCEMENT OF THE ADMINISTRATIVE RECORD FILE
DIGITAL

BACK OFFICE PROCESSING
DIGITAL

FRONT OFFICE ARCHIVE/CONSULTATION
DIGITAL/ PAPEL

DIGITAL REPOSITORY

DIVISIONS/DECISIONS

CITIZENS

BUSINESSES

E-government seeks to address public administration with the **support of information and communication technologies (ICT)** which have had worldwide impact in the late 20th and early 21th centuries. The purpose of e-government is to **enhance services and information offered to citizens and organizations, improve and streamline institutional support procedures and facilitate the creation of channels that will allow increasing transparency and citizen participation**.
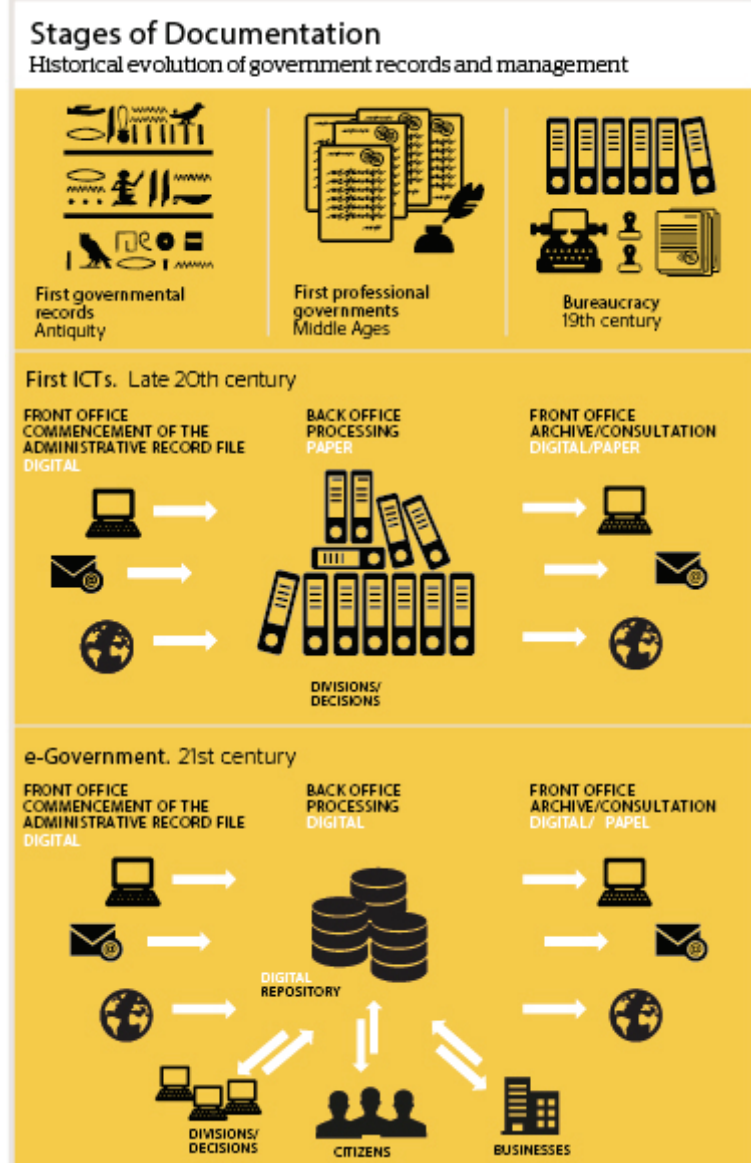
Thus, e-government aims at optimizing the use of resources available in the 21st century to attain governmental goals, while also promoting a **more direct, open and transparent relationship with citizens**, who are increasingly using such ICT tools in their everyday life.

Clear and updated information allow for the implementation of **better public policies.** Electronic document management, a necessary condition for an e-government model, involves the use of new technologies to transform public administration work patterns and practices, keeping them abreast of the times.

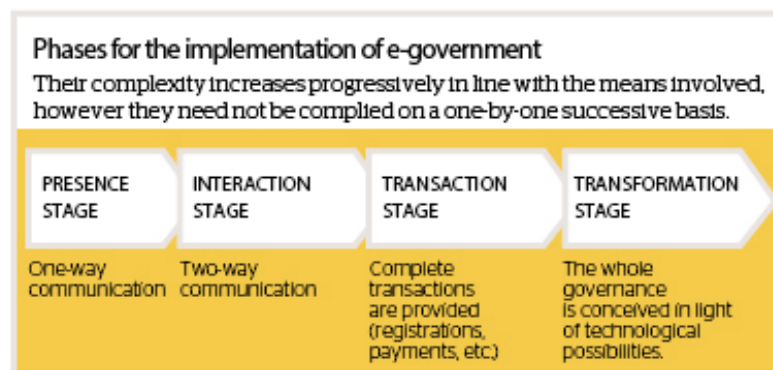Europe, with England and France at the forefront, has been on the cutting edge of this new **government approach, more agile and interactive and with far less paper.** E-government projects were implemented there on the basis of relatively primitive technologies, whereas countries such as the U.S., Spain or Estonia have recently implemented more integrated models based on ICT's technological leapfrogging occurring early in this 21st century.

Following the cutting-edge countries, the e-government model beacons **the path for public administrations worldwide,** since it appears as a **tool for fostering transparency, inclusion, sustainable growth, and economic, political and social development**. Growing infrastructure, greater access to information and education, massive computer literacy are some of the factors that accelerate the transition towards e-governments even in developing countries. In the words of an e-

government report published by *The Economist* in 2008: "Technology on its own will not bring reform, but it can make changes easier, cheaper and more effective".

The pathway towards e-government involves going through certain **phases or stages, which gradually increase in complexity in line with the means involved,** however such phases need not be successively complied with.

Phases for the implementation of e-government
Their complexity increases progressively in line with the means involved, however they need not be complied on a one-by-one successive basis.

PRESENCE STAGE	INTERACTION STAGE	TRANSACTION STAGE	TRANSFORMATION STAGE
One-way communication	Two-way communication	Complete transactions are provided (registrations, payments, etc)	The whole governance is conceived in light of technological possibilities.

Reaching **the transformation stage involves having achieved full digitalization of internal and external procedures** so as to allow catering for the needs of an integrated citizen oriented model. Thus, among other benefits, at this phase governmental agencies no longer need to request citizens for information which is already held by other agencies, from which the required information will be sought, or which may be consulted from centralized databases.

The model implemented in the City of Buenos Aires is based on international best practices and on the Latin American e-Government Chart (*Carta iberoamericana de Gobierno Electrónico*) (2007) and the White Book of e-Government Interoperability for Latin America and the Caribbean (*Libro Blanco de Interoperabilidad de Gobierno Electrónico para América Latina y el Caribe*) (CEPAL, 2007).

However, it should be noted that there is no single model for e-government. Each initiative is the result of a combination of local needs, technological advances, availability of resources and other elements that vary in time and location.

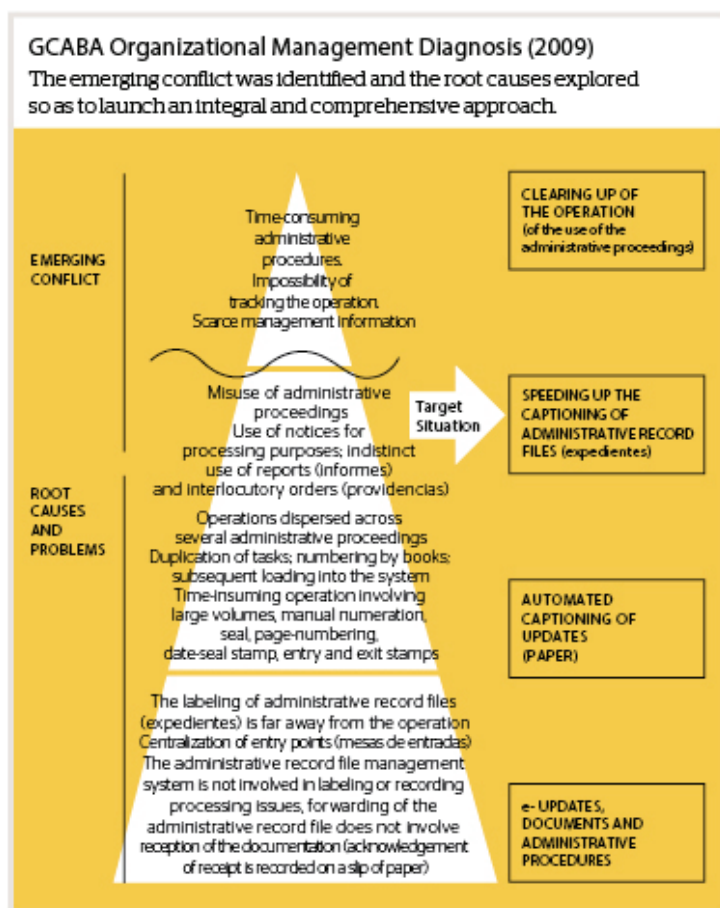## Keys to the transformation in the Government of CABA

> *"The electronic document management process provides a new impulse to the development of a modern city, with institutionalized innovation and creativity procedures, with a work team focused on how to become efficient, but also on how to obtain results with procedures that are sustainable in time and space, always for the benefit of citizens."*
> Andrés Ibarra, Modernization Minister of the Government of the Autonomous City of Buenos Aires

The magnitude of the challenge involved in transforming the Government of CABA –moving from a bureaucratic organization based on paperwork to a government operating under a fully electronic document management system in barely five years- had to be addressed with a variety of electronic, organizational and socio-cultural tools.

The **keys to the success of the process** have been:

- **Integral diagnosis of the organization.** From the beginning of its term in office the Legal and Technical Secretariat (SECLYT) team, responsible for management and operative issues, resolved to make an integral diagnosis that would identify the different layers of problems and would assess the elements needed for the transformation process to be successful. Although the initial approach was technical in principle- to switch from a paper-based to an electronic document management- much more profound issues were actually considered given that technological changes and administrative reforms often fail for apparently irrelevant issues which are usually put aside at the stage of the formal proposition. Thus, not only were the emerging conflicts identified (time-consuming administrative procedures, operation hurdles, lack of information), but also their root causes were explored, so as to

GCABA Organizational Management Diagnosis (2009)
The emerging conflict was identified and the root causes explored so as to launch an integral and comprehensive approach.
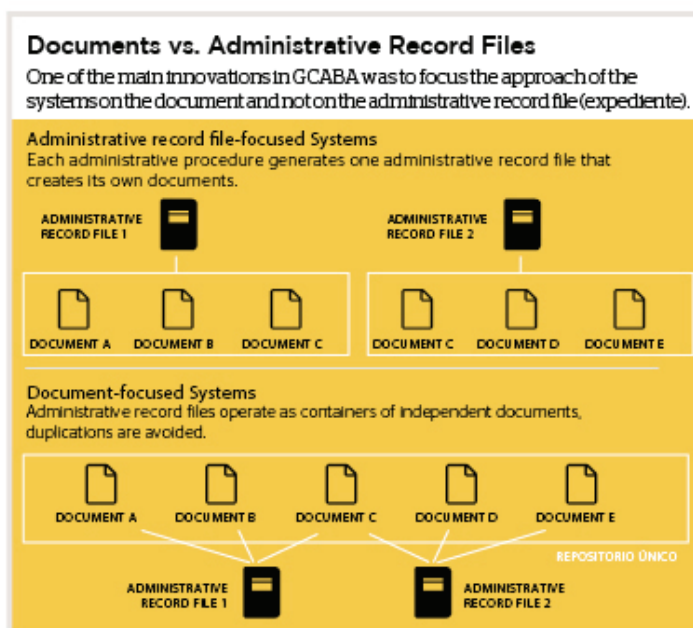
launch an integral and comprehensive approach of the subject matter.

- **Case studies and reference models.** By learning from past experiences conducted in other cities and comparing reference cases the new administration designed a transformation plan in line with the specific profile of the City of Buenos Aires, thus avoiding the most usual errors incurred in similar processes. A comparative analysis stage commenced in 2009 by conducting research and visits to other cities that had taken-up similar projects. Successes and failures were identified and specialized consulting bodies were contacted to get a general picture of what was happening in other administrations and which were the most accepted digital solutions. Exploratory visits were conducted to Madrid, Barcelona and Málaga, not only because Spain has language and cultural similarities but also because it is a benchmark case in e-Government implementation (pursuant to Law No. 11 of 2007 Spain mandated all administrations –at a national, provincial or local level- to give transparency to their processes and implement e-processing to administrative record files as from 2010).

- **A clear mission and a vision of deep change.** In order to launch and implement such a large-scale transformation it was essential for the administration head officials to draw a clear and agreed upon course of action. Since the new administration took office, the Legal and Technical Secretariat (SECLYT) was one of the main departments in charge of diagnosing the obsolete and outdated condition of administrative procedure systems and the collapse of the work patterns, and of proposing a modernization that would implement a more efficient, effective and citizen-oriented model in order to make the organization take a leap forward that would put the City in the path of an e-Government model in line with the demands of the 21st century. The Modernization Under-Secretariat was subsequently created -under the new Modernization Ministry- in order to provide a new frame to the advances in the organizational transformation.

- **Simple, tailor-made and scalable system.** The administration resolved to work with an electronic document management solution of its own, developed on the basis of existing systems in the market but specifically tailored to meet GCABA's management needs and goals. Thus, the system operates within an open code frame, as was required by the Information Agency Systems (IAS) of GCABA. This specifically developed integral solution for document management in GCABA is currently called "EDMS Ecosystem" (*ecosistema SADE)*, a set of interrelated modules for specific needs that operate jointly. The EDMS ecosystem is featured by the fact that it has been specifically tailored, and by the fact that it is flexible, scalable, gradually implemented and document-focused. The GCABA adopted an approach that is different from the one adopted by electronic document management systems usually found in the market: the EDMS Ecosystem is centered in documents. This involved focusing the system in the creation of e-documents, which are stored in a single repository and from there, subsequently grouped into an administrative record file (*expediente)* for processing. A flexible solution was created, allowing for the processing of a wide range of administrative procedures with relative speed.

- **Flexible-approach strategy.** The internal transformation called for a flexible and multi-dimensional approach, that took into account not only technical issues but also the legal and functional framework, as well as the technical assistance and training necessary for the cultural transformation. The outstanding

Documents vs. Administrative Record Files
One of the main innovations in GCABA was to focus the approach of the systems on the document and not on the administrative record file (expediente).

Administrative record file-focused Systems
Each administrative procedure generates one administrative record file that creates its own documents.

Document-focused Systems
Administrative record files operate as containers of independent documents, duplications are avoided.
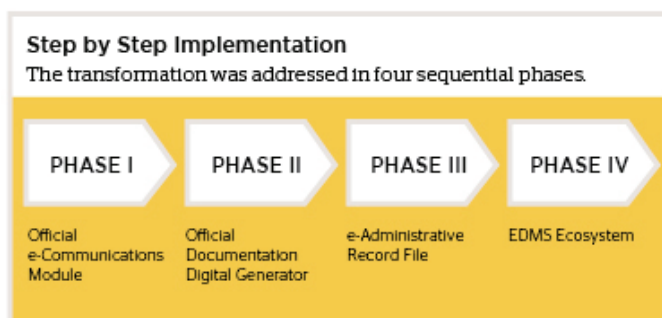
features of this approach strategy have been: starting from the inside (G2G), commencing from the *backend* and then progressing towards the citizen (G2C); using the systems and processes to increase efficiency; starting from simple applications and then moving on to more complex issues. The implementation was completed in four sequenced phases focused in the different modules or systems: the first one was the official e-communications module, which was followed by the official documentation digital generator (GEDO), next came the e-administrative record files (EE) module and finally the EDMS Ecosystem.

- **An adequate regulatory framework and plan.** The adaptation of regulations to the reality of e-document management has been of utmost significance for the process. The GCABA Public Administration Modernization Plan, approved by Law No. 33,404 of 2010 ("*Ley de Modernización de la Administración Pública de la Ciudad de Buenos Aires*) resulted an essential framework to guide the transformation process already embarked upon and to encourage additional regulatory changes.

- **Interdisciplinary team and continuous ongoing training.** The transformation was addressed by four teams that interacted and worked jointly: **the legal team** that was in charge of drafting the legal framework and all ancillary regulations necessary to provide e-documents with the same legal effectiveness as paper documents; **the operational team** that was in charge of analyzing government management procedures, the functional equivalence of documents, the impact and results of the introduced changes, in order to define the IT tools to be devised and used; **the IT team** that was in charge of creating the technological tools in order to implement the operational and legal requirements; **the implementation team** that was in charge of addressing the problems arising from the cultural change brought about by these new government management tools, of defining the procedures, users training and assistance, of answering general queries and of handling all issues related to the implementation of the transformation.

Step by Step Implementation
The transformation was addressed in four sequential phases.

PHASE I	PHASE II	PHASE III	PHASE IV
Official e-Communications Module	Official Documentation Digital Generator	e-Administrative Record File	EDMS Ecosystem

Electronic Document Management Regulatory Framework

Module	Regulations	Implementation Commencement Date
Regulatory Framework of GCBA's Electronic Document Management		
WEB Official Bulletin	Law No. 2739	June 2008
Public Administration Modernization Law (*Ley de Modernización de la Administración Pública*)	Law No. 3304	November 2009
Electronic Document Management System (*Sistema de Administración de Documentos Electrónicos*) (SADE)	Decree No. 589/09	June 2009
Official Communications (*Comunicaciones Oficiales*) (CCOO)	Decree No. 287/10	April 2010
	Decree No.696/10	September 2010
Official Documents Digital Generator (*Generador Electrónico de Documentos Oficiales*) (GEDO)	Decree No. 765/10	September 2010
	Decree No. 6/11	January 2011
	Decree No. 424/12	August 2012
	Joint Resolution No. 14/ MMGC-MJGGC SECLYT/12	August 2012
	Joint Resolution No. 13 MJGGC-PG-SECLYT/11	October 2011
	Resolution No. 334/ SECLYT/12	September 2012
e-Administrative Record File (*Expediente Electrónico*) (EE)	Decree No. 196/11	April 2011
	Decree No. 105/13	March 2013
	Law No. 4735	November 2013
	Law No. 4764	November 2013
	Resolution No. 21/ MJGGC-SECLYT/12	December 2013
	Resolution No. 17/ MJGGC-SECLYT/13	September 2013
	Resolution No. 19/SECLYT/14	April 2014
Services & Works Contracts (*Contratos de Locación de Obras y Servicios*) (LOYS)	Decree No. 224/13	June 2013
	Law No. 2751	June 2008
Digital Signature	Decree No. 398/13	October 2013
	Decree No. 446/13	November 2013
Remotely conducted Administrative Procedures (*Tramitaciones a Distancia*) (TAD)	Decree No. 429/13	October 2013
Social Plans and Subsidies Beneficiaries Identification Registry (*Registro de Identificación de Beneficiarios (RIB)*) and Social Security and Subsidies Plans (*Planes Sociales y Subsidios*) (PSOCS)	Decree No. 567/12	December 2013
	Resolution No. 317/SECLYT/13	November 2013
e-Roll Registration Single Credential No. (*Legajo Único Electrónico*) (LUE)	Decree No. 282/13	July 2013
	Resolution No. 3/MMGC-SE-CLYT/14	March 2014
e-Civil Registry (RCE)	Decree No. 104/13	March 2013
Suppliers e- Management (*Gestión Electrónica de Proveedores*) (GEP) and Suppliers Single Administrator (*Gestor Único de Proveedores*) (GUP)	Decree No. 116/14	March 2014
Registries e-Management (*Registro Legajo Multipropósito*) (RLM)	Decree No. 350/14	August 2014

The regulatory framework had to **address and sort out several problematic issues or questions** such as the legal and functional equivalences of the different formats, the new identification or authorship modalities, publicity and privacy issues, access, the different types of documents and their features.

It is always advisable for **legal regulations to keep a degree of technological neutrality** so as to allow the necessary flexibility to use the largest possible number of tools.

The strategy of this process was to **provide the public administration with tools and legal support** in the implementation of each of the problematic issues that arouse in this challenge.

Once the legal architecture was obtained, the **implementation strategy** consisted basically in the enactment of several executive orders that approved the different modules and vested a lower executive body, the Legal and Technical Secretariat- with authority to act severally or in some cases jointly with the Chief of Cabinet, Ministry of Modernization and even the Comptrolling Office (*Sindicatura*)– to define, among other issues, the time schedules to set the timeline for the gradual start-up of the modules by the different agencies of the public administration.

E-Government in action: the EDM Ecosystem (*Ecosistema SADE*)

The switch from paper management to e-management was achieved through the development of a **modular ecosystem** that allowed for the gradual implementation of new components.

The **Electronic Document Management System** (EDMS) is the core of the electronic document management system devised for GCABA. It was structured on the basis of a solution existing in the market, making developments especially tailored in line with GCABA's specific requirements. It is

designed as a set of components that do not operate on an isolated basis but which are part of a modular structure. Each "component" is a module that fits with others and, in turn, each "component" is reusable by other modules within the same system and also by external systems. Thus, the EDMS constitutes an **ecosystem, or group of interrelated elements,** that has progressively grown on a module-by-module basis and that allows for **new incorporations and interactions in the future**.

The central and fundamental component within this ecosystem is the **Official Documentation Digital Generator (*Generador Electrónico de Documentos Oficiales*) (*GEDO*)**. This module contains and manages all the rules to digitially generate official e-documents that legally replace traditional paper-based and holographically signed documents. These new e-documents are stored in the **Official Documents Single Repository** (*Repositorio Único de Documentos Oficiales*) (*RUDO*), from which the rest of the modules take them in order to manage them according to each module's rules, whether they are "containers" (e.g. administrative record e-file) or specific "businesses" or operations which in turn use some "container" (e.g. subsidies or works or services contracts that are processed through an administrative record file).
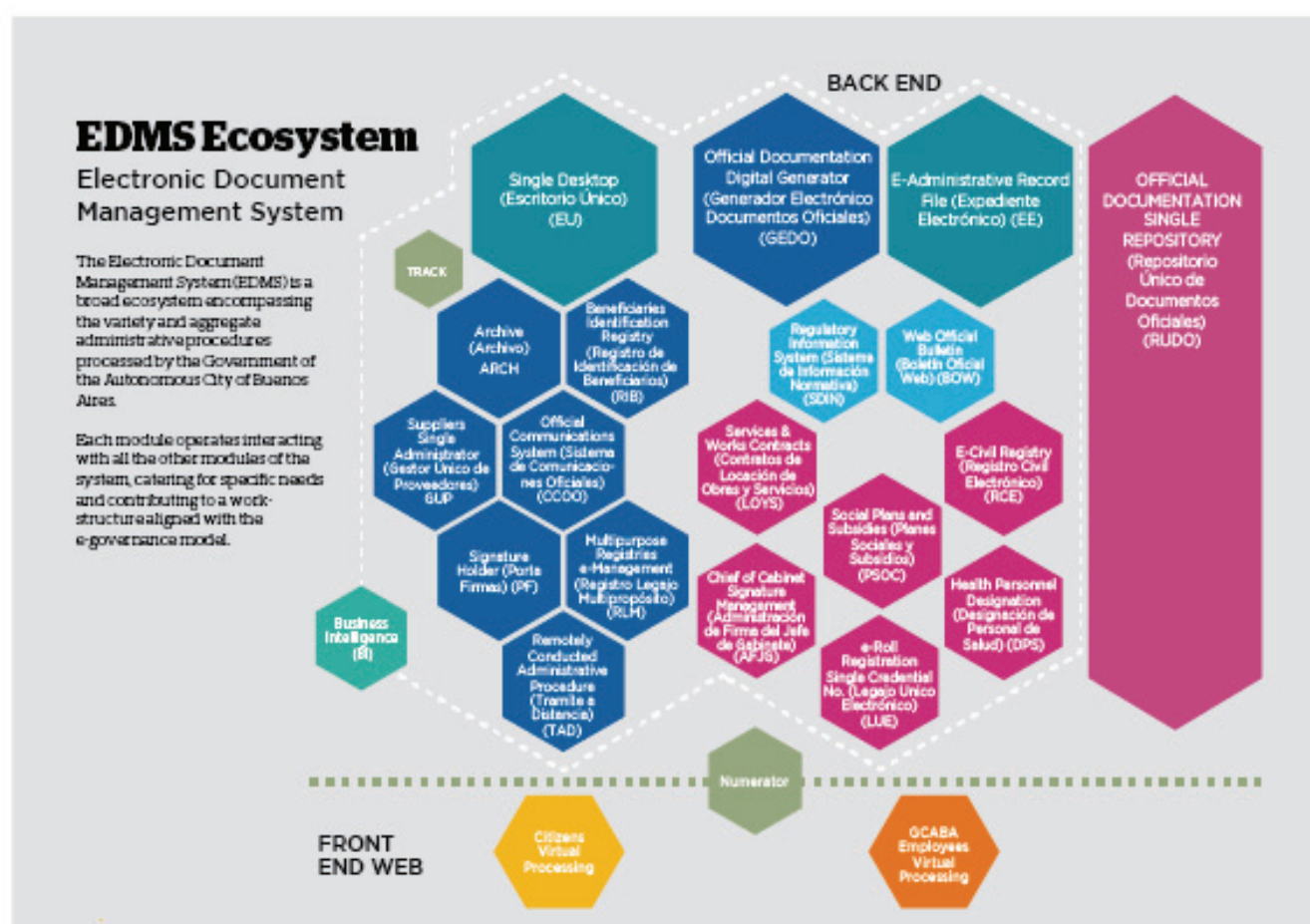
The **e-Administrative Record File (EE)** module is one of the **main "containers"** in the EDMS ecosystem to manage the rules that govern the use of an administrative record file in the Government of the Autonomous City of Buenos Aires. It allows linking documents generated by GEDO and stored in the single repository, with all the document management features.

The **Official Communications (CCOO)** module, that **resolves the digital creation, numbering, signature, communication and storage of the Notes and Memorandums,** and consequently, eliminates the need of paper support, was the first module to be implemented. It was of vital significance because it opened the door to electronic document management, allowing public officials to get acquainted with digital tools and avoiding the limitations of paper-based models.

The Ecosystem also includes: Web Official Bulletin (*Boletín Oficial Web*) (BOW), Regulatory Information System (*Sistema de Información Normativa*) (SDIN), Chief Executive Signature Management (*Administración Firma Jefe de Gobierno*) (AFJG), Archive (ARCH), Subsidies Single Processing E-Platform (*Plataforma Electrónica para la Tramitación Única de Subsidios*) (TUS), Works & Services Contracts (*Locación de Obras y Servicios*) (LOyS), Buenos Aires Procurement Integration (*Integración Buenos Aires Compras*) (BAC), e-Roll Registration Single Credential No. (*Legajo Único Empleados*) (LUE), Suppliers Single Administrator (*Gestor Único de Proveedores*) (GUP), Health Personnel Designations (*Designaciones del Personal de Salud*) (DPS), e-Civil Registry (*Registro Civil Electrónico*) (RCE), Multipurpose Registries Management (*Registro Legajo Multipropósito*) (RLM) and Remotely Conducted Administrative Procedures (*Trámite a Distancia*) (TAD).

The general services modules such as the **Single Destktop (EU)** and **Signature Holder (PF)** ease tasks or their display.

The **keys to the development and implementation of EDMS ecosystem** have been: a scalable modular structure, integrated specific modules, web environment, interfases on easy visualization browsers and operation for its 55,000 users and one single documentation repository.

Solutions on a module by module basis

Below we provide a short summary of the role of each module of the EDMS ecosystem developed in GCABA as the core for the migration from paper-supported documentation to electronic document management:

• **Archive (ARCH).** Is responsible for the management of the storage, consultation and depuration of paper-supported and e-administrative record files of the Government of the Autonomou City of Buenos Aires.

• **Single Desktop (EU).** Is an access point or inbox to the whole ecosystem. It also provides a general view online and in real time, of the tasks and time line delays in workflows of the public official and his/her subordinates, and it also provides access to the modules, and allows to operate on the tasks of subordinates and receive notices of tasks conducted in stages.

• **Signature Holder (PF).** It allows a user with a high volume of signatures to manage all such signatures jointly in an easy and prompt manner.

• **Chief of Cabinet Signature Management (AFJG).** It operates as an "inbox" of the administrative proceedings pending before the Legal and Technical Secretary to show the route of each proceeding all along from its reception at the Entry Point (*Mesa de Entradas*) of SECLYT in EDMS, up to its exit. The AFJG module allows controlling in real time the status of the tasks in the management process of the administrative proceedings forwarded to the signature of the Chief of Cabinet.

• **Subsidies Single e- Processing Platform** (TUS). This is an integral platform for the registration, processing and payment of subsidies, based on two work modules within the EDMS ecosystem: RIB (Beneficiaries Identification Registry) and PSOCS (Social Plans and Subsidies). The RIB module allows identifying a registered person who is, or qualifies as, a beneficiary of social programs of the GCABA. The system allows specifying the particulars of all those living with the beneficiary at a given time, as well as their relationship (relatives and non-relatives) with other registered beneficiaries. The PSOCS module enables the full digital processing of benefit awards, from application to payment thereof in the beneficiary's account.

• **Works & Services Contracts (LOyS).** This module has two main functions: on the one hand the application generates and processes the contracts with contractors who render services as independent contractors (Works & Services Contracts) for GCBA; on the other hand, the module

provides for the payment of the invoices of such independent contractors.

- **e-Roll Registration Single Credential No. (LUE)**. This module digitalizes and manages all the e-roll credentials of all the employees of GCABA, under an employment relationship with the Executive Branch, in all their hierarchies, except for educators.

- **Suppliers e-Management (GUP).** This module is 1) a means of registration of individuals and businesses willing to be suppliers of the GCABA and 2) a procurement e-management center of information, documentation and antecedents for call for bids by GCABA's agencies.

- **Health Personnel Designations (DPS).** This is a closed flow that manages the designation process of health personnel.

- **e-Civil Registry (RCE).** The modernization of GCABA Civil Registry was tackled in three areas: first, the analysis of administrative procedures for vital statistics (births, marriages and deaths) and their transformation towards e-documentation abiding by Federal Law No. 26,413; second, technological renovation, acquisition of new hardware to speed-up the use of RCE module; and third, training of public officials involved in the use of RCE. The paper based records included 32,000 books since up to such date vital recordations (birhts, marriages and deaths) were paper-based since 1886 when the Civil Registry was created. In this field, the electronic document management went beyond the local sphere since given the high volume of registrations in the City of Buenos Aires and its benchmark role, the definition of any administrative registration process is usually followed by the rest of the local civil registries throughout Argentina.

- **Multipurpose Registries e-Management (RLM).** This module allows for the e-management of the several public registries existing within GCABA vested with recordation and control functions, including, without limitation, Public Registry of condominium association managers (*Registro público de administradores de consorcios*), Public Registry of Lifeguards (*Registro público de guardavidas*), Registry of Aged Care Workers (*Registro de asistentes gerontológicos*), Public Registry of Natural Gas Specialists (*Registro de Gasistas)*. The purpose of these registries is to identify persons (individuals or legal entities) and license them to perform certain activities.

- **Remotely Conducted Administrative Procedures (TAD).** This module operates as a virtual point of entry availabe in each home, office and Smartphone. Located at the portal of www.buenosaires.gob.ar, through TAD, citizens may choose an administrative procedure from a list and label the administrative record file, load documents, rectify and amend documentation upon an agency's request, track the route of the administrative procedure and be notified by e-reliable notice.

- **e-Procurement Buenos Aires s (BAC).** BAC is an e-procurement that stands as an example of full integration with the EDMS ecosystem. As from the integration of BAC and the EDMS, the document management of the procedures conducted through BAC is automated, i.e. all related documents are generated and linked to the e-Administrative Record File where the procurement is processed.

- **Web Official Bulletin (BOW).** This module allows the agencies under GCABA Executive Branch to load files containing administrative acts, tender procedures, call for bids, notices, communications and any kind of publication to be published in the Official Bulletin. The Web Official Bulletin also publishes laws enacted by the Legislative Branch and rules of the Judiciary within the sphere of the Autonomous City of Buenos Aires. The citizens benefits because BOW involves more information in real time, since the Official Bulletin is available free of charge and can be easily consulted in the

GCABA official website.

- **Regulatory Information System (SDIN).** This module incorporates all the administrative acts published in the GCABA Official Bulletin and keeps an updated base of such regulations in the GCABA website.

New reality, new challenges

We have earlier described on a module by module basis the major changes introduced by the new electronic document management implemented in the GCABA. It is also worth highlighting the **general impact brought about by these achievements throughout the whole administration of the City.**

Within a five-year period, the swift transformation process not only **left behind piles of paper**, but also immediately **eliminated malpractices, speeding-up processing time and allowing for significant savings in staff, transportation and physical space**.

These and other results are valuable in themselves, since they add transparency, speed-up and update a public administration that was way back in time and lacked order and control. But they are, also, **the starting point for a sustained e-government model,** increasingly centered on the needs of the citizens and progressively evolving as the twenty-first century unfolds.

For the future and as from the implementation of updated and flexible systems tailored to the needs of the Government of the Autonomous City of Buenos Aires (GCABA), **new challenges lie ahead along the path to an increasingly effective, efficient, transparent and citizen-centered e-government**.

Some of the new challenges are, namely:

- standarization of procedures;
- readjustment of personnel and roles;
- integration of all government systems with electronic document management;
- extension of the rules' engine to many other procedures;
- use of tools to their full potential;
- backward digitalization;
- interoperability with other e-government systems;
- extending the use of "controlled forms" to nearly all administrative procedures;
- increasing the use of data captured throughout the whole GCABA;
- laying down audit guidelines on a system basis and survey users's behaviour while conducting administrative procedures;
- improving utilization and services.

The above list is only intended as a guideline and, therefore, provides only a very small portion of what is yet to come and what governments shall embark upon in the future. **A tough-minded capacity of realization, effort and will shall be essential** in order to adapt to the new reality that also involves new organization forms.

As stated earlier, the data was always there, but **ICT has managed to capture such data and release it, thus creating a new stage of knowledge,** that will transform reality as we know it and will lead us to new challenges that will call for new ways of thinking and acting.

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Plans, rules, presentations, systems development documents, user manuals and other internal documents used during the implementation of the electronic document management project in the Government of the Autonomous City of Buenos Aires were also consulted.

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