ICT STRATEGY 2020

Public Administration
Digital Transformation Strategy
2018 VERSION

tic.gov.pt

Introductory Note

When we think about the current Public Administration (PA) it is impossible to imagine it without the use of information and communication technologies (ICT), whether for information processing and document management, or for the provision of services to citizens, even in cases where said services are still provided in person. Such technologies have become a key instrument for administrative modernization, giving rise to improved efficiency, service integration and availability, and even anticipating needs, being therefore a significant innovation engine.

The initial combination of ICT with administrative procedures gave rise to the dematerialization of paper circuits, automation of a few operations, and later, communication simplification via the general use of Internet.

However, the challenge has become bigger and much more demanding. Other than swift and standardized responses, a more extended ICT concept that includes robotics and artificial intelligence, currently offers deep transformations – both regarding Public Administration organization and the services it provides to its users.

One of the main transformations we keep facing is to focus services on citizens and companies, organizing them around their needs and not as the way the Public Administration and governments are organized.

As of today, we all wish our contacts with public services are easy and convenient, a good experience to repeat and even share with our friends on social media and out of them. We intend to find all information in a single – physical or virtual – point, by using a single identification only, therefore avoiding the labyrinth of portals we are still facing with our administration. We hate to have to notify the State about the same situation twice. We wish to be contacted to a single inbox and to be notified of our rights or obligations via smartphone. If we are served by a Citizen Spot, managed by a Parish Council, we expect to find several Public Administration and municipal services and even more. We compare public service applications with our best experiences in terms of other activities. If nowadays we are already being notified that our plane is late via smartphone, we expect the same for a doctor's appointment.

This document revises the economic data of the strategy according with the revision of the ICT Sectorial Plans occurred in 2018. Historical and new revisions are available in https://tic.gov.pt/

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We want our interactions with public services to be more and more focused on our pockets, just one tap away, available anytime, anywhere. We want to be able to initiate a process using a single contact point, and for it to be continued in another point, but as part of the same procedure. We intend services to be customized to meet our needs, to recognize us, to be contextual and suited to the territory where they are provided to citizens.

From the PA point of view, in order for this to happen, we need to collaborate with users to ensure our products meet their expectations. And we need a much more collaborative, common strategy, so we can sustainably respond to citizen expectations, observing financial balance and all constraints arising thereof.

Said common strategy must facilitate the cooperation between governmental areas and governance levels, in order to jointly and effectively design services, including, sometimes, private and social sector entities. It must ensure communication and data storage security, which gives particular significance to cybersecurity policies. It must contribute to reinforce and share digital competences, in addition to other skills currently associated with service design. It must enable larger synergies, prevent platform repetition and the use of unnecessary portals, reduce waste and uneeded redundancies, improve investment programming and accurately measure return for each one of them. It must ensure that no citizen is left behind, therefore contributing for the digital inclusion of about 30% of Portuguese people who are still not directly benefiting from the ICT and/or ensuring assisted digital services.

The need of a common strategy was the main goal leading to the creation of the Council for Information and Communication Technologies (CTIC) by Resolution of the Council of Ministers no.33/2016, which was instructed to prepare the ICT strategy, approved by the Council of Ministers on March 2nd, 2017.

The ICT Strategy 2020 is formed by three main axles.
The **first** corresponds to the promotion of ***integration and interoperability***.
Without these two, there will be no services organized per citizens or companies' life events, nor there will be the "once-only" principle that allows to avoid asking the citizen for the same information time and time again. The PA interoperability platform (iAP), used for the first time in the project Cartão do Cidadão (Citizen Card), is therefore a key instrument in ensuring services are organized into single contact points, and allowing the PA to use the information it already holds, in cases when citizens authorize so. "Electronic Notifications" or "Document Interoperability" are examples of this axle.

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But using technology, as always, is not enough. To turn technology into a transforming instrument we need to take risks, design and prototype new services or new ways to provide such services, to use available data to anticipate needs, to improve public services and to decrease administrative costs, by favouring company competitiveness.

For that reason, the **second axle** of this Strategy is ***innovation and competitiveness***, and includes more than 500 transversal and sectorial measures. Innovation has become as important to the Public Administration as it has always been to the private sector. Even if innovation does not depend solely on technology use, demanding much more than that, it is true that ICT are anyhow an important facilitator for the design of new services.

Furthermore, this axle includes the concern of preparing the future, looking at what science and technology offer us and to the possibilities this gives to innovation in the Public Administration. For instance, the use of data analytics or **artificial intelligence** as an automatic mean for the handling of data (some non-personal and available via the internet of things) in order to prevent problems and/or anticipate needs.
Processing all information given to us in this way allows, for example, to provide citizens with improved services using fully automatic customer care systems in natural language or in disease prevention. Another possibility is the use of **augmented reality** in the physical design of new services, e.g. by using the citizen service area prototyping. It is also possible to use some technologies, like **blockchain**, to ensure information and personal data protection and integrity. These are challenges, among several others, that we were able to anticipate and that will change the way of working and products and services configuration.

Lastly, for these two axles and their actions are viable, ***resource sharing and investment in digital competences*** are essential. These constitute **the third axle** of the common strategy. Cloud solutions are an example of how we can store, process and keep information in a distributed way, according to each moment's requirements, changing the way we develop and consume technology. This axle further includes measures associated with the promotion of open source applications which are already used, for example, in Portal do Cidadão + (Citizen's Portal +) and Bolsa de Documentos (Document Exchange).

Introductory Note

In the same way, it is urgent to execute the common digital competences plan in order to favour the use of digital public services and the qualification and specialization of people contributing to said services.

The coordinated effort from the several governmental areas is the only way to keep country's competitiveness in the 21st century and to ensure the Public Administration remains relevant, trustworthy and inclusive, having the financial and human resources required to meet citizens' expectations in constant development.

Lastly, I acknowledge all those who have allowed us to reach this commitment, especially to the ministerial representatives in the CTIC, and to the teams of the several public bodies who have collaborated with them. A special remark to AMA which has coordinated the preparation of this document. From now on, the most demanding task will be to ensure the execution of the strategy described herein.

Maria Manuel Leitão Marques
Minister for the Presidency and Administrative Modernization

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This document revises the economic data of the strategy according with the revision of the ICT Sectorial Plans occurred in 2018. Historical and new revisions are available in https://tic.gov.pt/

Executive Summary

The ***Public Administration*** *Digital Transformation Strategy up to 2020* summarizes the Government vision for the use of Information and Communication Technologies (ICT) in the Public Administration for the next four years (2017-20), including initiatives common to all sectors of State Administration and specific initiatives for each sector.

This strategy was prepared by the CTIC - Conselho para as Tecnologias de Informação e Comunicação na Administração Pública (Council for Information and Communication Technologies in the Public Administration), bearing in mind its approval by the Council of Ministers.

The actions established therein are distributed by three main axles:

- Axle 1 – Integration and interoperability
- Axle 2 – Innovation and competitiveness
- Axle 3 – Resource sharing

These three axles foresee a total of 12 measures and 37 actions that include activities to implement in a cross-sectional and distributed way by the different government areas. Budgets and expected benefits are presented for all actions, whether in terms of savings for the Public Administration or economic and social benefits. Please refer to the end of this document for the methodology used in their calculation.

To govern ICT with a common strategy, coordinate sectorial initiatives, promote innovation and investment rationalization, therefore preventing unnecessary replications, are firstly measures that intend to ensure that digital services are simpler, more accessible and inclusive, in order to promote their use by all citizens. Likewise, we intend to obtain efficiencies that potentiate cost decrease, namely, by means of improved resource sharing, therefore making a sustainable Public Administration digital transformation.

Governance
of ICT - CTIC

The CTIC - Conselho para as Tecnologias de Informação e Comunicação na Administração Pública (Council for Information and Communication Technologies in the Public Administration) was created in 2016, with the organization, composition and relevance set by the Resolution of the Council of Ministers no. 33/2016 of June 3rd, with the goal of ensuring the development of a global planning and optimization strategy for the use of Information and Communication Technologies (ICT) in the Public Administration (PA).

CTIC appears as an evolution of the former ICT governance model based on the GPTIC - Grupo de Projeto para as Tecnologias de Informação e Comunicação (Project Group for Information and Communication Technologies) created in 2011, therefore benefiting from the gained experience and knowledge.

ICT governance is based on a structure that includes political, strategic and operational levels, having a cross-sectional vision materialized in ICT Sectorial Plans suited to the reality of each governmental area.

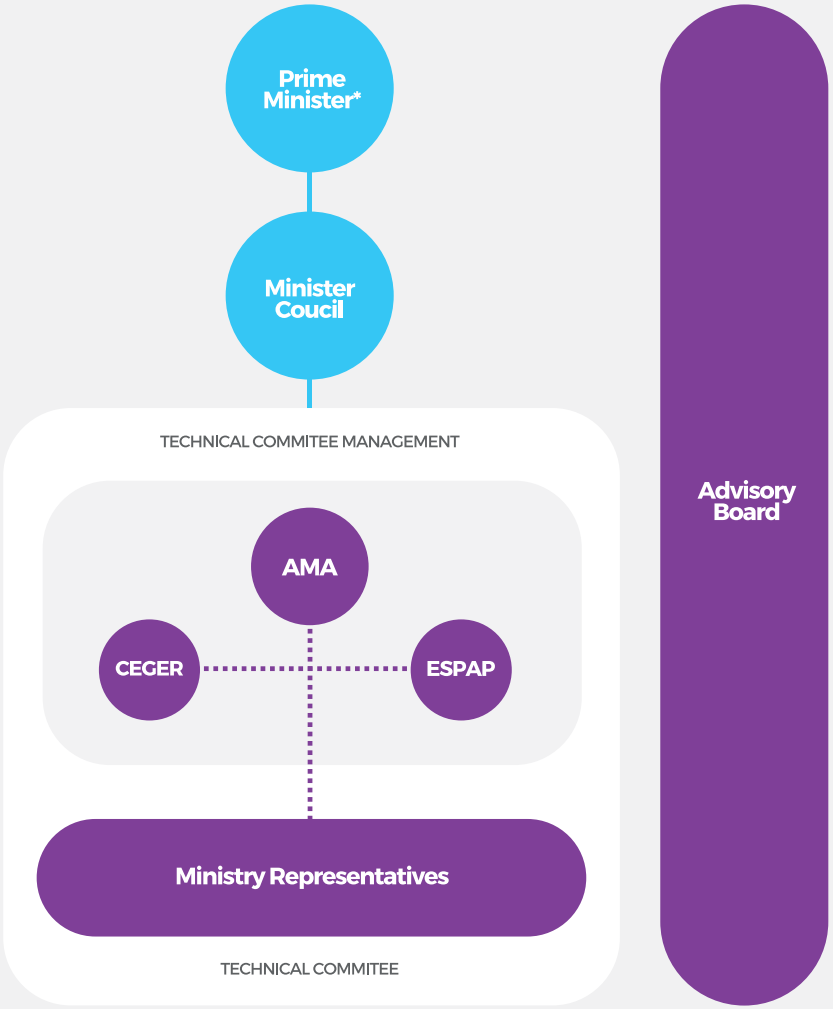


Figure 1
ICT Governance structure

* Delegated to the Minister for the Presidency and Administrative Modernization in XXI Governo Constitucional

AMA - Agência para a Modernização Administrativa, I.P. (Administrative Modernization Agency)
CEGER - Centro de Gestão da Rede Informática do Governo (Government IT Network Management Centre)
ESPAP - Entidade de Serviços Partilhados da Administração Pública (Public Administration Shared Services Entity)

Governance of ICT - CTIC

CTIC

The CTIC is the coordination structure in charge for the operationalization of ICT strategy and global action plan, and focuses on making the most out of its transforming potential so that the ICT can enhance PA efficiency and effectiveness for improved public services.
The CTIC depends on the Prime-Minister or Government member to whom it is delegated, and is formed by a Technical Committee (TC) and an Advisory Board (AB).

Technical Committee

The Technical Committee is formed by representatives of Agência para a Modernização Administrativa, I.P. (AMA), Centro de Gestão da Rede Informática do Governo (CEGER), Entidade de Serviços Partilhados da Administração Pública (ESPAP) and representatives of each governmental sector – Ministerial Representatives.

Technical Committee Management

The Technical Committee Management is responsible for the operational management of the "ICT Strategy", and is formed by Agência para a Modernização Administrativa, I.P. (AMA), that manages and chairs, with the collaboration of a representative of Centro de Gestão da Rede Informática do Governo (CEGER) and a representative of Entidade de Serviços Partilhados da Administração Pública (ESPAP), whenever deemed relevant.

Ministerial Representatives

The Ministerial Representatives represent one or several governmental areas, according to each Government's organization.

Advisory Board

The Advisory Board is formed by five independent personalities, renowned in the area of administrative modernization, and information and communication technologies.

ICT STRATEGY 2020

PUBLIC ADMINISTRATION DIGITAL TRANSFORMATION STRATEGY

ICT Strategy 2020:
Public Administration Digital Transformation Strategy

Vision and guiding principles

The ICT Strategy 2020 focuses on Public Administration digital transformation, with the ICT being a Public-Sector modernization catalyst.

Its goals are to respond to challenges arising from the need of promoting administrative simplification and public service organization depending on citizens and companies' requirements.

The main goals of the ICT Strategy 2020 are the following:

- To make digital services simpler, more accessible and inclusive;
- To potentiate digital service adoption by citizens and companies;
- To ensure a sustainable development in terms of digital transformation.

The guiding principles of the ICT Strategy 2020 are the following:

- Data security, resilience and privacy, in order to ensure the protection of information held by the PA;
- Public services usability and inclusion, in order to improve access and easiness of use;
- PA employees' digital competences and resource sharing, in order to ensure improved use efficiency.

ICT must catalyse Public Administration Modernization

ICT Strategy 2020:
Public Administration Digital Transformation Strategy

ICT Strategy 2020 measures are distributed by three action axles:

- Integration and interoperability;
- Innovation and competitiveness;
- Resource sharing.

ICT Strategy 2020:
Public Administration Digital Transformation Strategy

AXLE I – Integration and interoperability

- A **governance** model that allows the coordination of ICT investment and making the most of its transforming potential;
- A cross-sectional ICT strategy, adapted to the specific needs of the several areas via the implementation of **ICT sectorial plans;**
- **Interoperability** between different PA entities, and between the PA and companies;
- A common **reference architecture** that focuses on digital resilience and system and data security.

AXLE II – Innovation and competitiveness

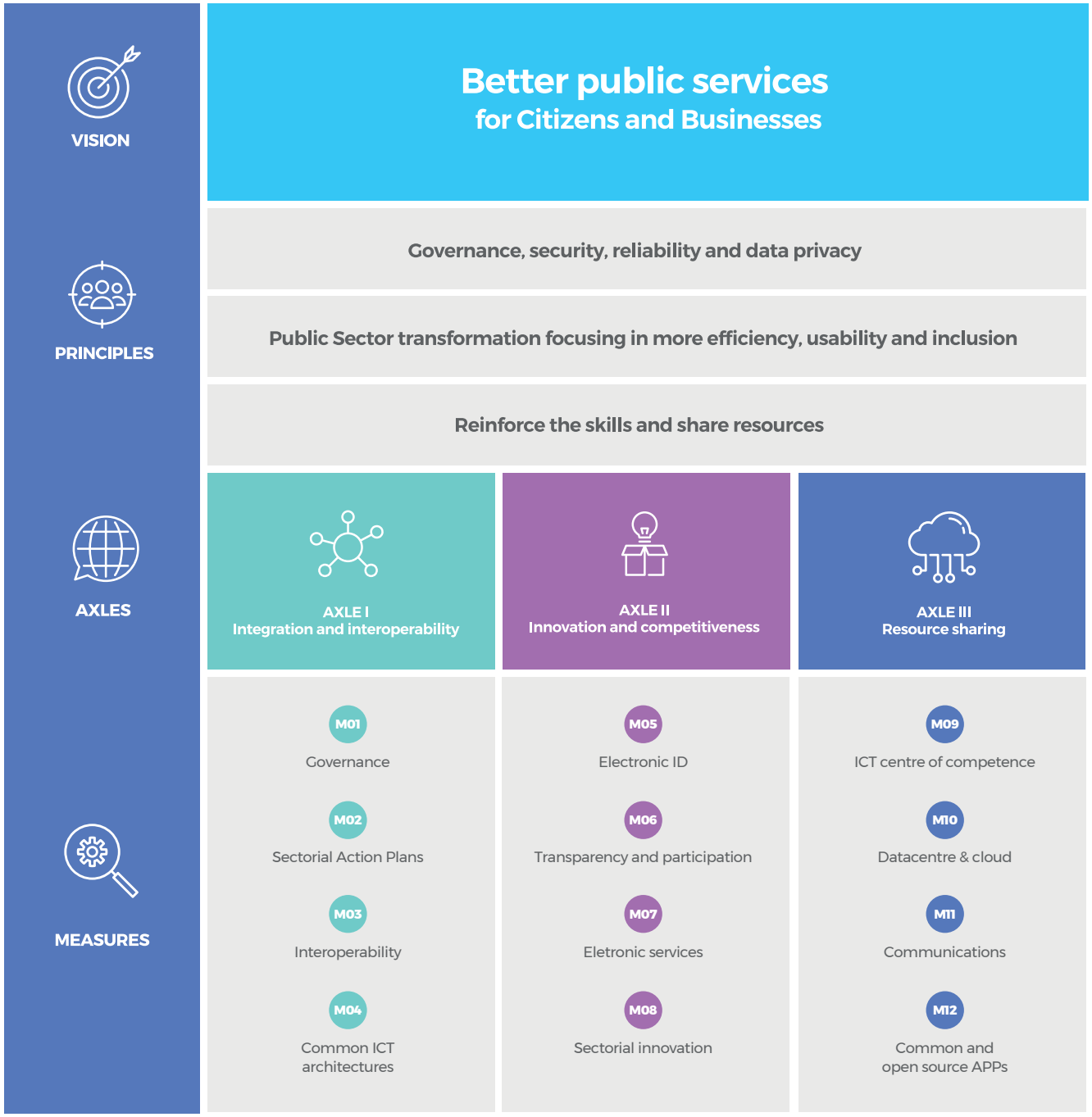
- **Electronic identification** for improved trustworthiness and to promote the use of electronic services;
- Information produced by the PA made available in a **transparent** way in order to develop innovative services performed by the PA itself and by the civil society;
- Focus on the accessibility of **electronic services**, therefore promoting proximity and context cost reduction, and the participation of citizens and companies in the design of new services, in order to potentiate their usability;
- Specific **sectorial innovation** initiatives focusing on improved effectiveness and provided services for each governmental area.

AXLE III – Resource sharing

- Improved PA employees' **ICT skills** using, by means of training initiatives and the organization of ITC centres of competence;
- Development of **cloud services** and maximization of the capacity installed in datacentres;
- Development of a secure multi-service **communications network** that eliminates unnecessary redundancies;
- Development, management, contracting and negotiation of **PA software**, in an integrated way, strongly focusing on open source solutions.

ICT Strategy 2020:

Public Administration Digital Transformation Strategy



AXLE I
Integration and interoperability

ICT integration and interoperability in the PA are the main goals for the promotion of modernization and administrative simplification projects, and for the adoption of good practices, liable to be replicated both at the State and local administration levels.

Measure 1: ICT Governance

- Define and implement a cross-sectional governance model for the ICT;
- Consolidate the ICT governance model for each governmental area.

Measure 2: ICT Sectorial Plans

- Approve and publish ICT sectorial plans per governmental area, aligned with strategy, allocations and sectorial competences;
- Elaborate annual project and ICT investment plans.

Measure 3: Interoperability

- Provide an electronic service catalogue;
- Extend interoperability to document management solutions;
- Mass use the interoperability platform (iAP) for administrative simplification and modernization initiatives.

Measure 4: ICT reference architecture

- Define and implement common ICT architectures;
- Optimize ICT investments;
- Define and implement a national information security strategy.

AXLE II
Innovation and competitiveness

ICT have a key role in administrative modernization and simplification by allowing the dematerialization of processes and the design of new services, creating new access channels for citizens – available anytime, anywhere.

Measure 5: Electronic identification

- Develop and provide a Citizen Card with new features;
- Allow a single authentication of citizens in PA sites and systems;
- Provide the SCAP - Sistema de Certificação de Atributos Profissionais (Professional Competences Certification System) for signing and authentication.

Measure 6: Transparency and participation

- Extend the open data disclosure and use via dados.gov.pt;
- Disclose execution indicators and benefits accomplished by executing PA policies, initiatives and projects;
- Provide instruments that facilitate the participation of citizen in public decision processes.

Measure 7: Electronic services

- Integrate user experience in service processes;
- Define common standards and models for the uniformization of the graphics and usability of electronic services;
- Consolidate electronic services in Portal do Cidadão;
- Provide information in the Portal do Cidadão, depending on citizen location;
- Provide citizen document exchange;
- Automate PA service provision and response to life events;
- Adopt virtual workstations, by incorporating the Bring Your Own Device (BYOD) concept;
- Drive the adoption of mobile ways of work and work from home in the PA;
- Implement Wi-Fi roaming in the PA – GOVroam;
- Scan the PA's physical archive.

Measure 8: Sectorial Innovation

- Develop sectorial actions to improve provided service quality and/or PA internal effectiveness by using the ICT.

AXLE III
Resource sharing

The need of improving the quality of public services and promoting PA higher efficiency implies a better use of skills and resources.

Measure 9: ICT centre of competences

- Define the operation model and drive the development of an ICT centre of competences;
- Promote the development of Digital Competences.

Measure 10: Cloud datacentres

- Capitalize and concentrate computation capacity in data processing centres;
- Create an interoperable cloud.

Measure 11: PA Communications

- Rationalize voice and data communications;
- Implement a common multi-service communications network;
- Define and implement unified communication strategies.

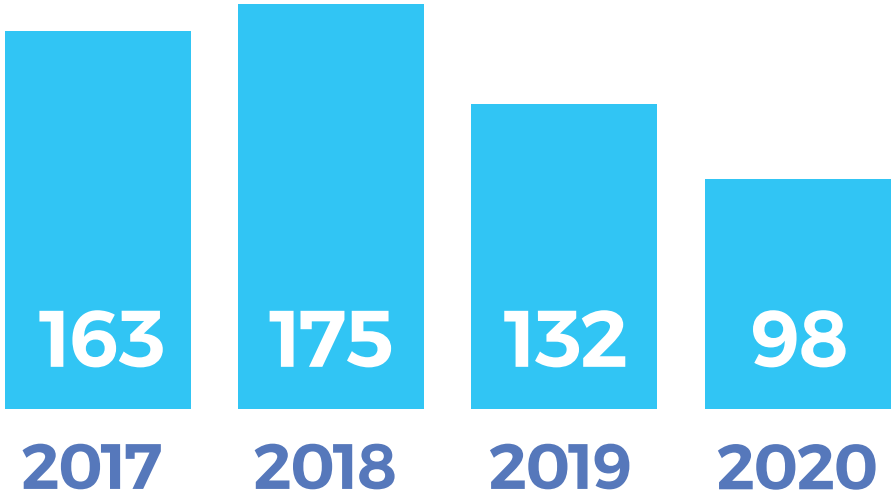
Measure 12: Common and open source APPs

- Globally manage State software cross-sectional licensing needs (including creation, reuse and negotiation);
- Promote and disseminate open source software (OSS);
- Create and promote the PA software catalogue.

INVESTMENTS, SAVINGS AND ECONOMIC AND SOCIAL BENEFITS

ICT Strategy and sectorial plans
Investment

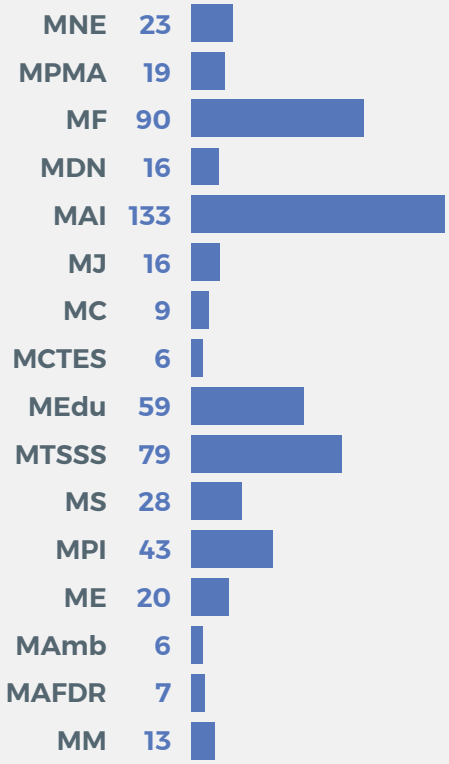
569 M€
in 4 years
Overall estimated investment



(M€) Amounts rounded to millions of euros

ICT Strategy and sectorial plans
Overall summary

Investment per governmental area (M€)



(M€) Amounts rounded to millions of euros

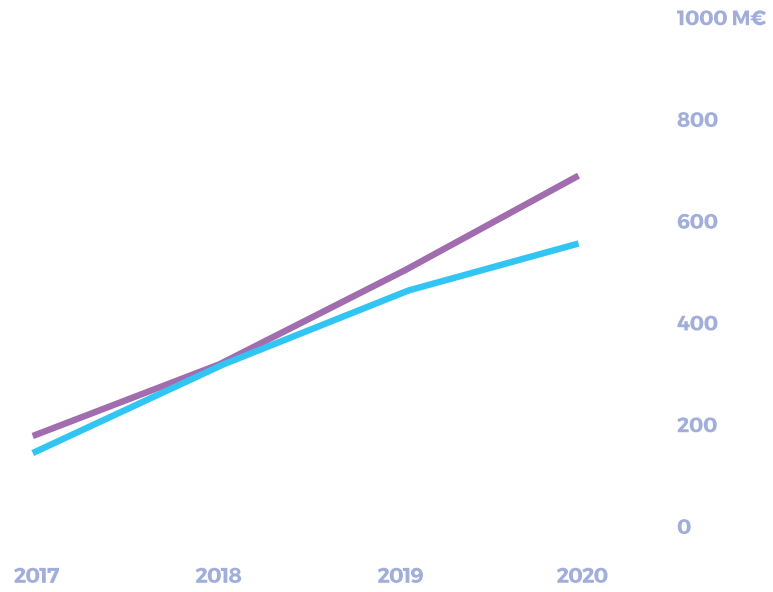
Sums per governmental area (M€)

Ministry	Investment	ICT Savings	Non-ICT Savings	Economic and Social Benefits	Overall Net Benefits
MNE	22,7	0,5	14,1	44,3	36,2
MPMA	19,0	6,0	3,1	130,4	120,4
MF	90,5	32,6	35,1	145,4	122,6
MDN	16,2	6,8	5,5	1,9	-2,1
MAI	132,6	46,2	19,8	299,0	232,5
MJ	15,5	6,8	2,1	18,0	11,3
MC	9,4	3,3	1,2	11,2	6,2
MCTES	5,9	8,4	15,8	59,5	77,8
MEdu	59,2	77,7	48,6	67,9	135,0
MTSSS	79,4	7,3	107,0	140,3	175,3
MS	27,9	3,5	111,1	0,0	86,7
MPI	43,5	3,8	60,7	0,0	21,0
ME	20,5	14,0	24,9	81,6	100,1
MAmb	5,8	0,0	28,3	0,0	22,5
MAFDR	7,2	2,3	3,1	4,0	2,2
MM	13,2	3,2	3,0	1,1	-5,9
SUMS	**569**	**222**	**483**	**1 005**	**1 142**

ICT Strategy and sectorial plans
Overall summary

Investment return
in the second year

Accumulated investment
Accumulated ICT and Non ICT Savings



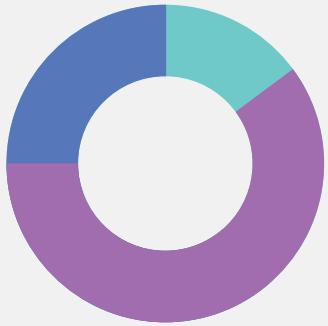
Global sums per year (M€)

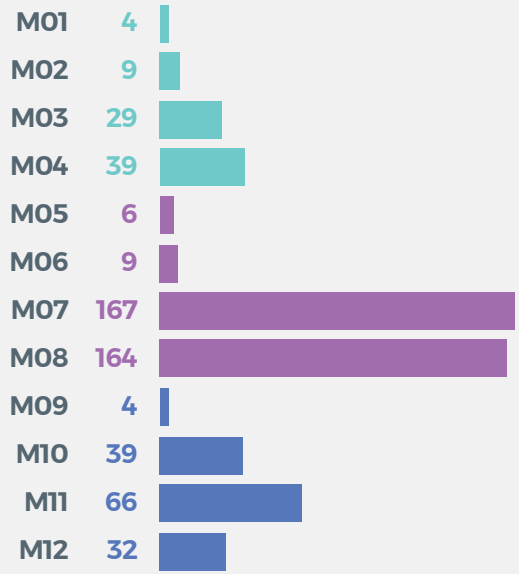
Year	Investment	ICT Savings	Non-ICT Savings	Economic and Social Benefits	Overall Net Benefits
2017	162,7	58,5	141,0	72,3	109,1
2018	175,5	49,7	90,3	160,2	124,7
2019	131,9	54,8	119,1	381,9	423,9
2020	98,5	59,4	132,9	390,2	484,0
SUMS	**569**	**222**	**483**	**1 005**	**1 142**

(M€) Amounts rounded to millions of euros

ICT Strategy and sectorial plans
Overall summary

Investment per measure (M€)





(M€) Amounts rounded to millions of euros

Global sums per measure (M€)

Measure	Investment	ICT Savings	Non-ICT Savings	Economic and Social Benefits	Overall Net Benefits
M01	4,3	3,6	0,4	0,0	-0,4
M02	9,3	0,0	0,4	0,0	-8,8
M03	29,0	3,4	34,3	128,2	136,8
M04	39,0	9,3	9,8	40,5	20,5
M05	6,2	1,2	0,9	88,0	83,9
M06	8,6	1,1	14,9	2,0	9,4
M07	167,3	80,4	254,6	425,0	592,6
M08	164,1	17,8	143,1	311,9	308,7
M09	4,2	0,8	8,9	0,3	5,7
M10	38,5	11,1	3,0	4,9	-19,5
M11	65,8	58,2	0,8	0,0	-6,8
M12	32,2	35,4	12,3	4,0	19,6
SUMS	**569**	**222**	**483**	**1 005**	**1 142**

BENEFIT CALCULATION METHODOLOGY

Benefit
calculation metodology

All benefits arising from the implementation of the foreseen projects were estimated in the scope of the elaboration of the ICT strategy and sectorial plans.
Based on the Standard Cost Model (SCM)*, the ministerial representatives, in collaboration with the several bodies, have quantified both investment amounts and implementations costs, and generated savings and benefits for each project.

1. INVESTMENTS AND COSTS
Investments identified in the ICT Strategy and Sectorial Plans for each year include all investment (CAPEX) and operation (OPEX) costs required for project implementation at the sectorial level in the period between 2017 and 2020.

2. SAVINGS AND BENEFITS
The execution of projects and activities foreseen by the ICT Strategy anticipate direct savings for the Public Administration and/or economic and social benefits for the society.

2.1 Public Administration Direct Savings
Set of benefits ensured by the Public Administration, whether in the ICT component – ICT savings, or in the "business" process effectiveness gain component, generated by the ICT – non-ICT savings.

2.1.1 ICT Savings
Savings originated annually from ICT investment and operation costs reduction (including potential operational costs reduction). These savings may arise from the reduction of costs associated with human resources allocated to activities related to the ICT or from the reduction of costs regarding datacentres, communications, software licensing and support, etc.

2.1.2 Non-ICT savings
Savings originated annually from the increase of internal effectiveness in the relationship with citizens (front office) and internal functioning (back office). These savings may arise, among other aspect, from process dematerialization and optimization, interoperability between bodies, release of resources to be allocated to other tasks, reduction of the number of printed documents and space release, etc.

2.2 Social and economic benefits
Benefits originated annually from context cost reduction for citizens and companies, like: reduction of the number of travels, waiting and service time, number of documents and service execution time.

3. NET BENEFITS
Net benefits identified by the ICT Strategy and Sectorial Plans arise from the sum of amounts regarding ICT and non-ICT savings, estimated social and economic benefits, to which the investment amounts and implementation costs are subtracted.

* Sectorial plan amounts include VAT. Investment, savings and benefit amounts are not aggregate. Quick benefit calculation guide and supplementary information available at: https://www.ama.gov.pt/web/agencia-para-a-modernizacao-administrativa/transformacao-digital

SECTORIAL PLANS

Sectorial Plans

Sectorial plans available online at:

https://tic.gov.pt/

TECHNICAL FILE

Technical File

The list of people who have collaborated in the ICT Strategy and ICT Sectorial Plans is the following:

- Technical Committee Management representatives:
  - Pedro Silva Dias - Agência para a Modernização Administrativa, IP
  - César Pestana - Entidade de serviços Partilhados da Administração Pública, IP
  - Tito Vieira - Centro de Gestão da Rede Informática do Governo

- Ministerial Representatives for each governmental area:
  - Mário Miranda Duarte - Foreign Affairs
  - Pedro Silva Dias - Presidency and Administrative Modernization | Culture
  - Teresa Gilrbal - Finance
  - João Ribeiro - National Defence
  - Francisco Gomes - Internal Administration
  - Hugo Nunes - Justice
  - João Nuno Ferreira - Science, Technology and Higher Education
  - Teresa Evaristo - Education
  - Carla Costa - Labour, Solidarity and Social Security
  - Henrique Martins - Health
  - Mário Nogueira - Planning and Infrastructures
  - Maria Ermelinda Carrachás - Economy
  - Alexandra Carvalho - Environment
  - Cristina Chéu - Agriculture, Forests and Rural Development | Sea

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