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Open Source Software Country Intelligence Report

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WAVESTONE

Authors

Giorgio Cacciaguerra Ranghieri

Federico Chiarelli (federico.chiarelli@wavestone.com)

Vivien Devenyi (vivien.devenyi@wavestone.com)

Debora Di Giacomo (debora.digiacomo@wavestone.com)

Eleonora Zoboli (eleonora.zoboli@wavestone.com)

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Executive summary

The use of open source software (OSS) in Spain is rooted in civil society and the industry. This bottom-up approach is shown on an annual basis at various free software conferences, such as OpenExpo Europe held in Madrid for the past seven years and LibreCon, which have both proved to be highly popular events. LibreCon is the successor of the Open Source World Conference, which came into existence in 2004.

While civil society plays an important role, there are some policy and legislative initiatives in Spain advocating in favour of the use and production of OSS in public administrations. In 2015, the Spanish government reinforced its legislation on the use of free and OSS by public administrations, already existing in Law no.11/2007[1] on the access to electronic services. In 2015, the government also published an important policy document, the Guidelines on Publication and Licensing of Assets (*Guía de publicación y licenciamiento de activos*), to encourage public administrations to develop reusable assets while using appropriate licenses. These guidelines were built on the basis of the Royal Decree 4/2010 of 8 January 2010, which regulates the National Interoperability Framework within the scope of eGovernment. It develops provisions about interoperability stated in the old eGovernment Law 11/2007 and later in the new Law 40/2015 and is applicable to all public administrations in Spain. The National Interoperability Framework promotes the reuse of software and bolsters the role of the Technology Transfer Centre (CTT) in hosting reusable ICT assets. It also instructs public administrations to actively consider OSS solutions available on the CTT and other repositories, and to strive to make their applications freely and openly available to others.

A characteristic of the Spanish open source environment is the effective decentralisation of public administrations and the ability of individual regions to autonomously develop their own regulations. This helps to explain why some regions in Spain play an important role in driving the implementation of OSS solutions. The region of Andalucia houses the largest regional repository of reusable solutions for public administrations and also notably the Forge of the Government of Galicia[2] . Another key regional player is the Basque Country, where there are numerous laws and regulations in place which aim to nudge public administrations to share and reuse ICT solutions.

Actors

This section presents the key governmental bodies that are responsible for setting OSS policies and the main strategic players that work together with the government at all levels to raise awareness on OSS.

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[1] Law no.11/2007 has been succeeded by Law no.40/2015
[2] https://www.mancomun.gal/

Policy makers

- The Technology Transfer Centre (CTT – *Centro de Transferencia de Tecnología*)[3] is a directory of reusable applications and solutions available to all Spanish public administrations. The technical solutions (services, developments, infrastructure, regulations, semantic assets, etc.) are of interest for the development of eGovernment initiatives within public administrations.

- Red.es[4] and the General Secretariat of Digital Administration (SGAD)[5] of the Ministry of Economic Affairs and Digital Transformation (MAETD) facilitate the management of OSS and reusable solutions by public administrations via the support channels put in place by the CTT. Red.es shares their expertise with public administrations, offering technical and legal advice on OSS solutions.

Strategic players

- Hispalinux[6] is an association of Spanish users of GNU/Linux. One of the core objectives of the association is to encourage public administrations to favour and enhance the use of OSS on the computers of different public administrations (both national and sub-national), as well as the use of open file formats.

Policy and legal framework

This section recapitulates the main OSS-related policies and legal acts of the last ten years. The list is presented in a chronological order, starting from the most recent milestone.

- Law no.40/2015 of October 2015[7] on the legal regime of the public sector refers to the reuse of applications and technology transfer between public administrations. Public administrations are required to provide reusable applications to those that request them, unless they are subject to special protection. Law no.40 is the successor to Spain's eGovernment Law (no.11/2007) of access to electronic services. It also promotes the "reutilisation of applications and technology transfer". It emphasises the rights of public administrations to share any software that they develop.

- The General Secretariat of Digital Administration (SGAD) published Guidelines on Publication and Licensing of Assets (*Guía de publicación y licenciamiento de activos*)[8] in 2015 to teach public administrations how they can publish and distribute OSS solutions following the implementation of the Spanish National Interoperability Framework (ENI) (Royal Decree

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[3] https://administracionelectronica.gob.es/ctt/ctt

[4] https://red.es/redes/es/quienes-somos/redes

[5] https://administracionelectronica.gob.es/pae_Home/pae_Organizacion/SGAD.html?idioma=en

[6] https://hispalinux.es/

[7] http://www.all-law.es/en/2015/10/05/act-402015-of-1-october-on-the-legal-regime-of-the-public-sector/

[8] https://administracionelectronica.gob.es/pae_Home/pae_Estrategias/pae_Interoperabilidad_Inicio/pae_Normas_tecnicas_de_interoperabilidad.html

4/2010) (described below). The guide recommends that users take the following considerations into account:

- Compatibility of open source licenses and associated components.

- Selection of the appropriate open source license prior to the release of a solution.

- Recommendations for open source licenses according to the set of components that make up the solution.

- Technical aspects related to releasable solutions.

- How to effectively distribute an open source solution in terms of package creation, license compliance, etc.

- Operation of open source communities.

- Intellectual property of open source solutions.

- The Spanish National Interoperability Framework (*Esquema Nacional de Interoperabilidad –* ENI)[9] regulates the interoperability scheme in the field of electronic administration as foreseen in the Law 40/2015[10] and implemented through the Royal Decree no.4/2010 of January 2010. Article 16 'Applicable licencing conditions' mandates that for applications declared as open source, administrations should use licences which ensure that shared programmes, data or information can be used for any purpose and that the source code must be shared, can be modified, and can be redistributed to other users. Article 17 'Directories of reusable application' mandates public administrations to publish application source codes on application directories to make them freely available for reuse. The aim of this is to promote the further reuse and distribution of these applications and actions, and to increase efficiency within public administrations.

  All public administrations can make their own decisions regarding the ICT they use. It is, however, required to use the approved catalogue of Standards mandated by the ENI, and to share the software developed with other public administrations. The services offered must also respect technology neutrality towards the users (citizens).

- The Spanish government expressed an interest in OSS long before the introduction of binding legislation on the matter. For example in 2003, the former Superior Information Council, which was then tasked with the approval and diffusion of IT criteria and normalisation, recommended

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[9] https://administracionelectronica.gob.es/ctt/eni#.Xo1zgMgzaUk
[10] http://www.all-law.es/en/2015/10/05/act-402015-of-1-october-on-the-legal-regime-of-the-public-sector/

adopting OSS when available and when it is satisfactory for the task, as per the Resolution of 26 May 2003 of the Secretary of State for Public Administration.[11]

Open source software initiatives

This section presents an overview of the main OSS-related initiatives in Spain. The list is presented in a chronological order, starting from the most recent initiative.

- OSS initiatives by the SGAD: The SGAD is constantly releasing and upgrading open source solutions. The following are some examples that are available on the CTT.

  - Digital identification and electronic signature: The @firma Suite of electronic signature and identification solutions was developed by the SGAD. @firma is an electronic signature and validation platform, made available to all public administrations, providing services to implement advanced electronic signature and authentication in a fast and effective way.[12] The Signature Client Suite is an electronic signature tool is integrated in a web page using JavaScript, and is available on both desktop and mobile.[13] There are two cloud signature services: General Signature Holder for organisations of the General State Administration[14] and the SARA Signature Holder access to universities and other organisations[15].

  - Electronic services: ACCEDA (Citizen Access to Administration Files) is a modular platform that integrates three main components: e-headquarters; management for the electronic processing of the files that are initiated at the e-headquarters; and a tool for its administration and configuration, which includes a content manager and its own form editor.[16]

  - Solutions for management and archiving of electronic documents and files: : A distributable version of ARCHIVE, a web-based solution that archives public administrations' electronic records and files was developed by the SGAD.[17] InSide is a system for the management of electronic documents and files, also allowing interoperability amongst Ministries and various administrations.[18]

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[11] https://administracionelectronica.gob.es/pae_Home/pae_Biblioteca/pae_PublicacionesPropias/Monografias-administracion-electronica/Criterios_seguridad_normalizacion_conservacion.html
[12] https://administracionelectronica.gob.es/ctt/afirma#.Xose5sgzY2w
[13] https://administracionelectronica.gob.es/ctt/clienteafirma#.Xose3cgzY2w
[14] https://pf.seap.minhap.es/
[15] https://portafirmas.redsara.es/
[16] https://administracionelectronica.gob.es/ctt/acceda#.Xose8sgzY2w
[17] https://administracionelectronica.gob.es/ctt/archive#.XosfAMgzY2w
[18] https://administracionelectronica.gob.es/ctt/inside#.Xose-cgzY2w

      ○   Accessibility: The engine used by the Web Accessibility Observatory Tracker carries out periodic iterations of the Observatory and offers online diagnostic services for Public Administrations.[19] It is aligned with the implementation of the Web Accessibility Directive 2016/2102.

- LliureX, 2019[20]: The government of the autonomous region of Valencia has been publishing LliureX since 2005, a custom version of the Edubuntu Linux distribution. It is free, meaning that there are no acquisition costs; it incorporates the latest technological innovations; it is independent from a supplier; and the software can be adapted to the language needs of the user, supporting both Valencian and Castilian. The latest version was published in 2019.

- gvSIG, 2018[21]: gvSIG was first developed within the public administration, and today has a large community outside of the administration as well. Its services help governments to implement open source geomatics solutions, migrations, customised development and offers trainings.

- Consul, 2018[22]: Consul, the citizen participation platform shared as OSS by the city of Madrid (Spain), is being implemented in 18 countries across the world. In Spain, Consul is used by public administrations in more than 40 villages, towns and cities. In Europe, Consul is also used by public administrations in Paris and Aude (France), Turin (Italy), and Tirana (Albania), and Madrid has also been made contact with towns and cities in Bulgaria, Italy, Germany, Malta, the Netherlands, Slovenia and Poland regarding their future use of Consul.

- Decidim, 2016[23]: Decidim is an open source digital platform for citizen participation which launched in Barcelona in 2016. The main objective of the development of Decidim was to build a tool which centralises many functionalities, thus making it easier for citizens to participate in the politics of the city. In addition to Barcelona, Decidim is now used in many municipalities in Spain as well as in other European cities such as Helsinki (Finland) and Angers (France).

- Training kit on OSS for NGOs, 2016[24]: The government of Galicia shared various conference videos, presentation slides and training material that Non-Governmental Organisations (NGOs) could use in order to adopt OSS solutions. During that year, workshops were also organised for NGOs and Small- and Medium-sized Enterprises (SMEs).

- OSS in Galicia, 2015[25]: The government of Galicia, more specifically the Agency for the Technological Modernisation of Galicia (AMTEGA) published three OSS solutions in 2015: one for PCs in classrooms (XEA), one for land management, and one for computer network

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[19] https://administracionelectronica.gob.es/ctt/oaw#.XosfBcgzY2w
[20] https://portal.edu.gva.es/lliurex/
[21] http://www.gvsig.com/en
[22] http://consulproject.org/en/
[23] https://decidim.org/
[24] https://wiki.mancomun.gal/index.php/Ciclo_formativo_de_software_libre_para_o_terceiro_sector
[25] https://joinup.ec.europa.eu/collection/open-source-observatory-osor/news/galicia-publishes-open-source

enhancement. At first, the tools were only available on Galicia's software repository, however, in order to allow more administrations to gain access, information about the solutions was also made available by the CTT. XEA is also constantly updated and improved on the Mancomun.org forge.

- Open source messaging system, 2014[26]: The University of Valencia built a distributed messaging system using only OSS components. The new system aims to make it easier for firms to participate in the many tenders organised by the university.

- AL SIGM, 2013[27]: Developed initially by Spain's Ministry of Industry, Tourism and Energy, but nowadays maintained by a community of public administrations. The AL SIGM application provides public administrations with a system that can gather all file documentation in electronic format. The OSS application helps public administrations to create, process, resolve and archive their administrative procedures.

- Sentilo, 2012[28]: The Barcelona City Council, through the Municipal Institute of Informatics (IMI), started a project in November 2012 to define the strategy and actions necessary to ensure that Barcelona positioned itself as a global benchmark for Smart Cities. Sentilo is an open source sensor and platform that is designed to fit into the Smart City architecture of any city that seeks openness and easy interoperability.

- OSS on Spanish cities' administration desktop computers, 2011[29]: The IT department of the city of Zaragoza published a migration guide for OSS on desktop computers in 2011. The guide describes all the steps taken by Zaragoza during the implementation phase, including the financial requirements, legal aspects and technical preparations. Since then, many cities' public administrations have adopted an OSS desktop system, including Ciudad Real[30], Extremadura[31], Las Palmas[32], Castilla-La Mancha[33], and Zaragoza[34].

- REGWEB, 2010[35]: REGWEB is an application to manage face-to-face records of entry and exit. The tool generates a registration number and a stamp with the registration data (office, date and time) that can be printed on the registered document. All records are stored in the database for later consultation. The application allows to manage different offices and assign registration

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[26] https://joinup.ec.europa.eu/sites/default/files/news/attachment/lswc.pdf
[27] https://administracionelectronica.gob.es/ctt/sigem
[28] https://administracionelectronica.gob.es/ctt/sentilo#.Xor1qcgzaUk
[29] http://www.zaragoza.es/contenidos/azlinux/migracionescritoriosl.pdf
[30] https://joinup.ec.europa.eu/collection/open-source-observatory-osor/news/spains-ciudad-real-switch
[31] http://www.juntaex.es/comunicacion/noticia?idPub=8123#.Xl-CpKhKiUk
[32] https://joinup.ec.europa.eu/collection/open-source-observatory-osor/news/spains-las-palmas-moves-120
[33] https://joinup.ec.europa.eu/collection/open-source-observatory-osor/news/castilla-la-mancha-nurtures-o
[34] https://joinup.ec.europa.eu/collection/open-source-observatory-osor/news/spains-zaragoza-continues-gr
[35] https://administracionelectronica.gob.es/ctt/regweb#.Xor1y8gzaUk

users to each of them. It also allows modifying registrations made, as well as generating referrals between offices.

- Multi-domain email service, 2004[36]: CTT is continuously developing a multi-domain mailing service that does not require on-site installations or external contracting. Part of the service is built on open source solutions. Administrations adhering to it have been found to reduce their operation and maintenance costs. By 2013, there were already 14,000 users within the Ministry of Finance and Public Administration and other governmental organisations.[37]

- Government of Aragón[38]: The government of Aragón is developing its electronic administration, and has released its platform. The projects and services developed by the government in the framework of electronic administration are published. The open source solution will act as an index of solutions released, as well as include other regulatory, information and training elements that are applicable to the set of services.

- OSS in Andalusia[39]: The Andalusian government has committed to the use of OSS in order to boost the business capital of the community. Various initiatives, such as the Guadalinfo[40] project, work with OSS. Guadalinex[41] is an Ubuntu-based operating system which aims to offer public broadband access to even the most remote areas of Andalusia. It is used by schools, public libraries, centres for elderly people and Guadalinfo centres. Andalusia also has a repository that was established to give citizens free access to the OSS that is used by the regional public administration and other autonomous agencies.

- Datos.gob.es[42]: The source code of the Spanish national open data portal, datos.gob.es, has been released. This open data platform integrates a Drupal content management system with CKAN Open Data repository software and seven CKAN extensions developed by the Spanish government. These elements are now available via GitHub.

- ATENEO[43]: ATENEO is an open source Queue Management System for use in public administrations, developed by the State Tax Administration Agency. Depending on the physical characteristics of the places intended for customer service, it may be installed in small spaces with few operators or deployed in large spaces with a multitude of stalls, defining one or more waiting rooms and one or more service areas

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[36] https://administracionelectronica.gob.es/ctt/correogobes
[37] https://joinup.ec.europa.eu/collection/open-source-observatory-osor/news/spains-finance-ministry-offe
[38] https://administracionelectronica.gob.es/ctt/paea#.Xor9SMgzY2w
[39] https://www.juntadeandalucia.es/temas/tic/software-libre.html
[40] https://ec.europa.eu/regional_policy/en/projects/best-practices/spain/1617
[41] http://www.guadalinex.org/portal_banneradmin/forja
[42] https://datos.gob.es/en
[43] https://administracionelectronica.gob.es/ctt/ateneo#.Xor1vcgzaUk

- RedIRIS[44]: RedIRIS is a repository of OSS projects hosted and operated in part by the Andalusian Scientific Information Centre (CICA). It aims to support software that are developed in university or scientific environments that are intended for distribution as OSS under a free licence.

- Irekia[45]: Irekia is the Basque Country's regional OSS development website. The repository is linked with those of Andalusia, Catalonia, Extremadura and Galicia, all of which are managed by the CTT.

[44] https://rediris.es/servicios/almacenamiento/forja/index.html.es
[45] https://www.irekia.euskadi.eus/es/site/page/about