DG DIGIT

Unit.B2 (Interoperability & Digital Government)

Open Source Software Country Intelligence Report

Bolivia

2023

This research was carried out by OpenForum Europe for the Interoperable Europe initiative under the Digital Europe Programme. The report provides an overview of open source software (OSS) in Bolivia as of November 2023. This report was kindly enriched with the help of the Bolivian Free software community.

OpenForum Europe

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Executive Summary

Bolivia has taken a particularly strong approach to the use of free and open source software at central government level, connecting it with its sovereignty policy. This commitment stems from a well-established free software community that emerged in the early 2000s. The initial push towards open source software highlighted the necessity for comprehensive measures alongside mandatory adoption. Consequently, the country revised its regulations to embrace the transition towards open technologies with a goal of achieving full sovereignty.

The primary entity driving free software policy in Bolivia is the Agency for e-Government and Information and Communication Technologies (AGETIC). This agency oversees the enforcement of Law No.164 which mandates the use of open source software, along with subsequent implementation decrees. AGETIC is responsible for facilitating each central government agency's creation of its individual Free Software and Open Standards Implementation Plan, which is required by law at national level. The national plan for implementing free software stands as the key technical framework outlined in Law No.164 to coordinate agencies' individual plans. AGETIC receives support from multiple agencies in executing and coordinating these plans.

At local level, autonomous territorial entities, departmental, municipalities and indigenous and aboriginal peasant communities are encouraged to apply the same policies. The free software associations of Bolivia have played a pivotal role in shaping the country's policies. Through coordinated advocacy efforts, these free software activists have successfully influenced policymakers and have become involved in government agencies dedicated to digitalisation. This involvement has paved the way for a sustained, long-term approach to embracing open source software.

Actors

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

Policy makers

- The Agency for e-Government and Information and Communication Technologies (AGETIC)[1] is the main body responsible for free and open source software in Bolivia. It is tasked with leading and consolidating the development and implementation of policies, programmes, projects and services related to e-Government to achieve technological sovereignty and the digital transformation of the

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[1] AGETIC

state. Created in 2015, it is placed under guidance of the Ministry of the Presidency.[2] It oversees the implementation of the free software plan and has its own developer team.

- Agency for the Development of the Information Society in Bolivia (ADSIB),[3] created in 2002,[4] is the agency in charge of developing policies, strategies and actions to provide reliable, innovative and high-quality services in the field of Information and Communication Technologies. Some of its responsibilities were taken over by the AGETIC upon its creation.

Strategic players

- Plurinational Committee on Information and Communication Technologies (COPLUTIC),[5] created in 2013, proposes national policies and plans for the development of the information and communication technologies sector and coordinates projects and lines of action between all the actors involved. It comprises representatives from five ministries and coordinates the implementation of the national Free Software and Open Standards Implementation Plan.

- Council for Information and Communication Technologies of the Plurinational State of Bolivia (CTIC-EPB),[6] created in 2015, is an advisory council to the AGETIC. Consisting of government actors of various levels, the CTIC-EPB has released guidelines and advisory documents on the use of free software. It also hosts on its website each administrations' Free Software and Open Standards Implementation Plan as well as their Electronic Government plan and Institutional Information Security Plan.

- Comunidad Software Libre de Bolivia, officially founded in 2006,[7] is an initiative for the promotion of free software in Bolivia, which was instrumental in creating and developing the free software plans and policies in the country. While today, its activities are more informal, this situation can be explained by the success of their work as many of its members have gone on to join government digital agencies, leading the country in its adoption of free software.

- ACM-SIM/ Bolivia TechHub,[8] launched in 2003[9] to encourage the participation of students in the International Collegiate Programming Contest, this group evolved to be an important stakeholder in creating the national free software plan. Heavily implicated in the education and training of students, it created the Bolivian Informatics Olympiad in 2011 and is in charge of several hackathons in the country.[10]

- Sectoral Council of Telecommunications and Information and Communication Technologies

[2] Misión y visión
[3] ADSIB
[4] Bolivia: Decreto Supremo Nº 26553, 19 de marzo de 2002
[5] https://www.coplutic.gob.bo/
[6] CTIC
[7] slb:asociacion [SLOB]
[8] Acerca | Bolivia Tech Hub
[9] Cabero Tapia. "Institutional entrepreneurs: decision-making, networking and collective leadership." (2019). https://doi.org/10.14279/depositonce-7796
[10] Nuevo | Bolivia Tech Hub

(COSTETIC):[11] This is a consultative body for making proposals and coordination between the central level of the State and the Autonomous Governments. Among others, it is responsible for coordinating and arranging the deployment and use of technological infrastructure.

- Vice Ministry of Telecommunications, created in 2009,[12] oversees proposing policies on telecommunications, information technologies and postal services, promoting comprehensive development and universal access to the basic services of the sector.

- Vice Ministry of Science and Technology:[13] part of the Ministry of Education and the entity responsible for formulating, implementing and disseminating policies, plans and programmes of Science, Technology and Innovation.

Policy and legal framework

This section summarises the main OSS-related policies and legal acts in Bolivia, including the first known milestones in this domain. The list is presented in chronological order, starting from the most recent milestone.

- Institutional Free Software and Open Standards Implementation Plans (PISLEAS):[14] These reports are produced by local governmental agencies to establish their respective migration strategies to free and open source software. They regroup, depending on the capacity of the agency and its local context, various categories of information essential to implement the plan correctly. Some of the most complete reports even compile each hardware item owned by the agencies.[15] The reports are published by the CTIC-EPB.

- National Free Software and Open Standards Implementation Plan 2017-2025, published in 2017:[16] This plan is the main reference for the use and implementation of OSS in the Bolivian government. Enforced by Supreme decree 3251,[17] it provides the framework for implementing the measure of the Law 164 of 2011. This plan takes a comprehensive approach to the use of open source, considering the various governance structures necessary as well as the need of the public sector open source ecosystem to thrive. Based on a survey of the state of open source in government in 2017, the plan establishes the conditions for all national government agencies to create their own implementation plans and details the support offered by the AGETIC acting as responsible entity and the COPLUTIC acting as coordinating entity. It also stipulates that the Autonomous Territorial Entities, departmental, municipalities and indigenous and aboriginal peasant communities are encouraged to work on similar plans, while not being mandated to do so.

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[11] Consejos – Comités – MOPSV
[12] Decreto Supremo Nº 29894 Estructura Organizativa del Poder Ejecutivo del Estado Plurinacional | Viceministerio de Comunicación - Bolivia
[13] Inicio VCyT
[14] PISLEAs – CTIC
[15] Plan de Implementacion Software Libre y Estandares Abiertos 2019 – 2025
[16] Plan de Implementación de Software Libre y Estándares Abiertos 2017 – 2025
[17] Bolivia: Decreto Supremo Nº 3251, 11 de julio de 2017

- Supreme Decree No. 2514 of 9 September 2015:[18] The decree establishes the Electronic Government and Information and Communication Technologies Agency (AGETIC). This decree requires AGETIC to propose, promote, manage, coordinate and update the national Free Software and Open Standards Implementation Plan.

- Law No.650, the Patriotic Agenda of 19 January 2015:[19] This law officially elevates the "Patriotic Agenda of the Bicentennial 2025"[20] to full legal status. The agenda outlines the thirteen pillars crucial for the dignity and sovereignty of Bolivia. Notably, the fourth pillar focuses specifically on technological sovereignty, which supports the subsequent open source policies.

- Supreme Decree 1793, 13 November 2013:[21] This implementing decree establishes the conditions for the application of Law No.164. It defines the concept of free software and requires public institutions to migrate their systems to free software within 7 years. The decree also creates the COPLUTIC. The decree creates the state free software repository and designates the ADSIB as responsible agency for the Free Software and Open Standards Implementation Plan, whose principles are:

  - Enable the implementation, use and development of Free Software and Open Standards on computer platforms, applications, computers, computer networks, data exchange and publication of digital content of the organs of the Plurinational State of Bolivia.

  - Promote the advancement of the process of decolonisation of knowledge.

  - Promote the training of staff in free software and open standards in coordination with government bodies and public administration entities.

  - Promote international cooperation mechanisms on free software and open standards, in respect of the sovereignty and computer security of the Plurinational State of Bolivia.

  - Establish monitoring and control mechanisms that guarantee the application of this Regulation and the Free Software and Open Standards Implementation Plan.

  - Promote the development of free software in the public and private sectors, favouring Bolivian professionals and companies.

  - Establish the conditions and hierarchy to strengthen the system within public entities so that they can meet the objectives of the Regulation.

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[18] Supreme Decree No. 2514
[19] Bolivia: Ley Nº 650, 19 de enero de 2015
[20] Agenda Patriótica 2025
[21] DECRETO SUPREMO N° 1793 EVO MORALES AYMA C O N S I D E R A N D O: Que el Parágrafo II del Artículo 103 de la Constitución Po

- General Law No.164 of 8 August 2011 for the Development of Information and Communication Technologies:[22] Establishing the general approach for the government's ICT policies, this law is the current basis of the free software policy in Bolivia. Its article 77 calls for the executive, legislative, judicial and electoral bodies at all levels to promote and prioritise the use of OSS and open standards. It also calls for the executive body at national level to develop the implementation plan for the use of open source and standards in coordination with other national organs and entities of the public administration.

Open source software initiatives

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

- Guidelines for the Organisation of the Development, Publication, Documentation and Licensing of the Software of the Plurinational State of Bolivia, 2019:[23] Published by the CTIC-EPB, these guidelines share recommendations regarding the establishment of communities around OSS used by the government of Bolivia. The document recognises the community development basis of free software and therefore recommends creating a software project governance.

- Alternatives for the selection of free and open source software, 2016:[24] Published by the CTIC-EPB, this document proposes a white list of free software packages alongside their selection criteria which serves as a practical tool to facilitate the selection and implementation process of free software for public sector entities and institutions. It is also available as a simplified list format which categorises and identifies available solutions.[25]

- General Public Licence for Free Software Considerations and Registration in Bolivia (LPG-Bolivia), 2014:[26] Developed by the ADSIB, the LPG-Bolivia is based on the GNU General Public License (GNU GPL), version 3, of the Free Software Foundation and adapted to the legal regulations in force in Bolivia, framed in the General Law of Telecommunications, Information and Communication Technologies, Law No.164 and the Supreme Decree No. 1793. It contains a compatibility clause which allows works published under the LPG-Bolivia to be redistributed under the GNU GPL.

- State Repository of Free Software (RESL), 2013:[27] Created alongside the Supreme Decree 1793 and Law No.164, this repository's functions have been detailed by the multiple reports produced by the ADSIB as well as the licensing guidelines from the CTIC-EPB. A public forge, RESL aims to

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[22] LEY Nº 164 LEY DE 8 DE AGOSTO DE 2011 EVO MORALES AYMA Por cuanto, la Asamblea Legislativa Plurinacional, ha sancionado la s
[23] Lineamientos para la Organización del Desarrollo, Publicación, Documentación y Licenciamiento del software del Estado Plurinacional de Bolivia
[24] Alternativas para la selección de software libre | CTIC
[25] ren- Soporte Nº. de paquetes Año de inicio Fecha de la última versión Seguridad Usabilidad Especializa- ción Compatibi- lid
[26] LICENCIA PÚBLICA GENERAL de Consideraciones y Registro de Software Libre en Bolivia (LPG-Bolivia) - PDF Descargar libre
[27] Repositorio Estatal de Software Libre

encourage the reuse of software solutions among the various public entities implementing free software.

● National Free Software Fair, 2013:[28] Held in 2013 and in 2014, this event's objective was for its participants to be able to present software or hardware projects developed with free software. It was convened by the Agency for the Development of the Information Society in Bolivia (ADSIB), the Ministry of Communication, the Andean University "Simón Bolívar", the Government of Chuquisaca, the Municipal Government of Sucre, the Free Software Community (SLOB) and the Más y Mejor Internet para Bolivia collective.[29]

● Latin American Free Software Installation Festival (FLISOL) 2005:[30] Originally a Colombian event created in 2003, Bolivian free software communities were part of the first international version of FLISOL in 2005. Since then, several FLISOL events are being held yearly.

● National Free Software Congress (CONASOL), 2000:[31] Hosted for the first time by the UMSA (Universidad Mayor de San Andrés (UMSA), it evolved over the course of 20 years to be one of the main events of the free software community of Bolivia with a last edition in 2021.[32] At its peak it gathered both community members and government experts.[33]

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[28] Feria Interinstitucional de Software Libre y Congreso nacional de Software Libre | Viceministerio de Comunicación - Bolivia
[29] SEGUNDA FERIA NACIONAL DE SOFTWARE LIBRE
[30] FLISOL2023/Bolivia - FLISOL
[31] congreso:historia [SLOB]
[32] Congreso Nacional de Software Libre 2021
[33] https://web.archive.org/web/20170310063318/http://hacklabsucre.org/conasol2016

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