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Unit.B2 (Interoperability & Policy Coordination)

Open Source Software Country Intelligence Report

Mexico

2023

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Mexico

Executive Summary

The Mexican federal government has recently promoted the adoption of open source software at the federal level. Several pieces of legislation highlight the importance of using free and open source software, particularly emphasising the budgetary advantages it offers in line with the national austerity law.

Regarding the development of digital regulations, the National Digital Strategy 2021-2024 relies on the leadership of the National Digital Strategy Coordinator who receives support from the Science Council, the Inter-Ministerial Commission on Information and Communication Technologies and Information Security, as well as the Public Research Center of the Federal Government.

At the federal level, regulations mandate the conditional prioritisation of open source software for public administrations. Similar measures were initially introduced in some of Mexico's 31 Member States, with the first call for such measures dating back to 2009. The state of Zacatecas has been a pioneer in open source software policy and has also established a free software laboratory, facilitating ongoing research, training, and solution development.

While federal regulations addressing open source software are relatively recent, various public services at the national level have already developed open source applications. Efforts to combat corruption, for example, have led to the development and promotion of open source software for implementing anti-corruption programs.

At the local and community level, open source software plays a crucial role in bridging technological gaps resulting from factors such as limited budgets, language and cultural considerations, or insufficient infrastructure in isolated areas. Indigenous communities and regions with significant indigenous populations have turned to open source solutions to meet their specific needs. The state of Oaxaca, for instance, has demonstrated how open source solutions support preserving cultural independence while embracing progress. These initiatives receive substantial support from a robust free software community, which has established a network of research centres and contributed to the widespread adoption of open source software across the country.

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

- National Digital Strategy Coordinator¹: Part of the cabinet of the president of Mexico, the coordinator develops information and communication technologies for use by the Federal Public Administration. It prepares and guides the issuance and execution of public policies and guidelines in digital systems of the federal government. It also defines and coordinates the public administration's digital policies and programs.
- Inter-Ministerial Commission on Information and Communication Technologies and Information Security or CITICSI²: Created in January 2023, this commission acts as a coordinating body among the authorities responsible for the implementation and development of actions in the area of information and communication technologies, as well as information security, in the federal public administration. Among others, it also creates and coordinates subgroups and produces research and policy analysis.
- National Council of Humanities, Sciences and Technologies (Conahcyt)³: Founded in 1970, Conahcyt is the institution of the Mexican government responsible for establishing public policies on humanities, science, technology, and innovation throughout the country with the objective of strengthening the scientific sovereignty and technological independence of Mexico. It coordinates Digital policy work with the National Digital Strategy Coordinator.

Strategic players

- Executive Secretariat of the National Anti-Corruption System: Responsible for the national anti-corruption system, it serves as a technical support body for the Coordinating Committee of the National Anti-Corruption System. It is an actor of transparency policy in administrations and developed its main platform as open source.
- Public Research Center of the Federal Government (INFOTEC)⁴: The centre contributes to the digital transformation of Mexico through research, innovation, academic training and the development of ICT products and services. It is involved in the research and use of open source in the public sector.
- Zacatecas, Sonora and Oaxaca State: These three states have pursued important open source policy and development strategies, collaborating together and also influencing the federal government to make commitments regarding open source.
- Foundation for Digital Development and Open Knowledge (DEDICA)⁵: This foundation created in 2023 aims to consolidate an ecosystem of technological innovation and digital transformation in a multi-sectoral way. With projects including the Open Source Innovation Lab, the foundation

¹ [Carlos Emiliano Calderón Mercado | Presidencia de la República | Gobierno | gob.mx](#)

² [CITICSI ¿Qué hacemos?](#)

³ [Conacyt](#)

⁴ [¿Qué es INFOTEC? | INFOTEC Centro de Investigación e Innovación en TIC](#)

⁵ [Fundación DEDICA](#)

members have been involved in open source for many years.

Policy and legal framework

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

- Programme for 2023-2024, INFOTEC Centre for Research and Innovation in Information and Communication Technologies, 2023⁶: This yearly programme sets up, among other, objectives related to open source. Notably, it calls for increasing the capacity of infrastructure and technological services and the development of open source software solutions and innovation. When analysing the national context of software development and its dependencies on external actors, the programme considers INFOTEC to be established as an ideal ally of the federal government. Among others, the programme includes a plan for improving the maintenance of the digital repository which hosts open source projects.
- Plans for the creation of a Free Software Congress for the Federal Public Administration, 2023⁷: A proposal issued by the CITICSI and PEMEX, the national petroleum company, the conference project would be a private-public meeting to facilitate the use of open source software both in the oil industry and in the federal public administration. This event aims to gather technology experts from PEMEX, federal government agencies, industry and academia in order to allow collaboration and exchange of experiences in that regard.
- Reform of the General Law on Humanities, Sciences, Technologies and Innovation, 2023⁸: A revision of the 2002 original law on technology and science⁹, this version of the law calls for the consolidation of digital government through the development and implementation of information technologies, particularly free software and open source.
- Federal Law of Republican Austerity, 2022¹⁰: This law regulates the austerity measures to be observed in the exercise of federal public spending. It recommends that acquisitions and leases of equipment and computer systems should be made, with prior justification, based on modernisation plans and prioritising the use of open source software.
- Agreement on issuing the policies and provisions to promote the use and exploitation of information technology, digital government, information and communication technologies, and

⁶ [PROGRAMA Institucional 2023-2024 INFOTEC Centro de Investigación e Innovación en Tecnologías de la Información y Comunicación.](#)

⁷ https://www.gob.mx/cms/uploads/attachment/file/833765/Acta_1ra_Sesion_Ord_08_mar_23.pdf

⁸ [Ley General en materia de Humanidades, Ciencias, Tecnologías e Innovación](#)

⁹ [Abrogada - Ley de Ciencia y Tecnología](#)

¹⁰ [Ley Federal de Austeridad Republicana](#)

information security, 2021¹¹: This agreement sets up the federal public administration digital strategy, including the prioritisation of the use of open source software as part of the Federal Law of Republican Austerity's objectives.

- Mexico's National Digital Strategy 2021-2024, 2021¹²: A roadmap for the federal administration to guide technological and information security efforts and initiatives in a common approach, the 2021-2024 strategy promotes the use of open source. Namely, the strategy calls for the prioritisation and migration towards open source in public institutions as well as the exchange of knowledge on the subject. The two main objectives of this strategy are to call for technological independence and autonomy.
- Free Software and Open Source Law Initiative for Sonora, 2021¹³: Established with the help of the SonoraLibre, an open source promotion association in the state of Sonora, this law is a transposition of the 2013 Zacatecan Law on free and open source software (see below).¹⁴ It takes on most of the Sonora's law's main measures, designating the State Council of Science and Technology of the State of Sonora (COECYT)¹⁵ as a responsible entity.
- Special Science, Technology and Innovation Program 2021-2024, 2019¹⁶: This programme from the National Council of Science and Technology calls for greater scientific and technological independence and global leadership positions. This is to be achieved through the strengthening and consolidation of both the capabilities to generate cutting-edge scientific knowledge, and the scientific and technological infrastructure, for the benefit of the population.
- Digital Nations Charter, 2018¹⁷: Mexico is a signatory of this charter, convened by the Digital Nations international forum. The initiative calls for all participants to promote open standards and create future government systems that are as open source as possible. The Digital Nations international forum's yearly summit facilitates cooperation on shared projects.¹⁸
- Free software and open source law of the state of Oaxaca, 2017¹⁹: Similar to the Zacatecan state law, this regulation calls for the use of the local council of science (COCITEI) and its free software laboratory to assume coordination tasks regarding the use of open source. It calls, amongst other things, for priority to be given to free and open source software for public administration

¹¹ [ACUERDO por el que se emiten las políticas y disposiciones para impulsar el uso y aprovechamiento de la informática, el gobierno digital, las tecnologías de la información y comunicación, y la seguridad de la información en la Administración Pública Federal.](#)

¹² [Acuerdo por el que se expide la Estrategia Digital Nacional 2021- 2024.](#)

¹³ https://normas.cndh.org.mx/Documentos/Sonora/Ley_FCDUDSLCAE_Son.pdf

¹⁴ http://www.congresoson.gob.mx/Transparencia/Asunto/LXII_129_03495

¹⁵ [Consejo Estatal de Ciencia y Tecnología](#)

¹⁶ [Plan Nacional de Desarrollo 2019-2024](#)

¹⁷ https://www.leadingdigitalgovs.org/files/ugd/189d02_ff9d33d670124239a3f6475e7c833ca8.pdf

¹⁸ [Summits | DIGITAL NATIONS](#)

¹⁹ [LA SEXAGÉSIMA TERCERA LEGISLATURA CONSTITUCIONAL DEL ESTADO LIBRE Y SOBERANO DE OAXACA. DECRETA: ARTÍCULO ÚNICO.- La LXIII Le](#)

systems.²⁰ It displays an important degree of strategic planning around the use, maintenance and development of open source for public administrations.

- Law to promote the creation, development, use, and dissemination of free and open source software in the state of Zacatecas, 2013²¹: This law designates an entity responsible for the achievement of the regulation's objectives, the Free and Open Source Software Laboratory of the Zacatecan Council of Science, Technology and Innovation (COZCYT).²² This law calls, amongst other things, for priority of open source systems whenever possible. It also quotes successful examples such as the acquisition of 250,000 laptops running GNU/Linux for public schools.
- Proposition with prior agreement, to exhort the head of the federal executive to consider the preferential use of free software licences in the federal public administration, 2009²³: Proposed by the temporary chamber, this motion called for giving preference to open source software in the public sector, following the example of successful use cases in Catalonia and Santa Fe.

Open source software initiatives

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

- Labsol Network, 2023: After 11 years of existence, the Free Software Laboratory of the Zacatecan Council of Science, Technology and Innovation (Cozcyt) evolved to become a network of research centres across the country.²⁴ With other centres in Oaxaca, Veracruz, Río Grande and Loreto, the laboratory now also has a Robotics, IoT and Creative Lab. The Labsol community has been strengthened since the experience of Zacatecas has facilitated the installation of 12 sub-headquarters of the laboratory in universities and technological centres of this entity and Veracruz, Oaxaca, Chiapas, Durango, Aguascalientes and the federal state.²⁵ Labsol currently coordinates the Innovation Labs Network (ILNET-Innovation Labs Network), which integrates nine Mexican states and Colombia, whose objective is to promote Latin American talent and foster skills in youth.²⁶
- Infotec's open source community²⁷: the Public Research Center of the Federal Government has developed its own open source community to promote the use of its Free Software repository with

²⁰ Ibis, Article 11.

²¹ [Ley para Fomentar la Creación, Desarrollo, Utilización y Difusión del Software Libre y de Código Abierto del Estado de Zacatecas](#)

²² [Consejo Zacatecano de Ciencia, Tecnología e Innovación de Zacatecas](#)

²³ https://www.senado.gob.mx/65/gaceta_del_senado/documento/20835

²⁴ [Gobernador David Monreal impulsa nueva etapa de Laboratorio de Software Libre: evoluciona a un Labsol Network – Gobierno del Estado de Zacatecas](#)

²⁵ [Proyectos – Labsol Network](#)

²⁶ [Coordina Zacatecas Red de Laboratorios de Innovación](#)

²⁷ https://www.infotec.mx/en_mx/Infotec/Comunidad_Abierta

software free of charge. Among the tools they provide, there is the INFOTEC DataBase Translation²⁸ and the Sistema de Nómina (payroll system).

- Tools against corruption, 2021²⁹: As part of the national anti-corruption policy, anti-corruption secretariats of various states had to develop interoperable systems to foster an array of transparency measures (including net worth declarations and a registry of sanctioned civil servants).³⁰ As such, the national platform provides software developed in-house for each system. These software packages, released under the GPLv3 licence, can either be reused as they are or forked and customised by the state's administration.^{31,32}
- The National Digital Platform (PDN) of the National Anti-Corruption System, 2019³³: A platform that aims to eliminate information barriers so that public data is comparable, accessible and usable in order to combat acts of corruption, the PDN aggregates various tools useful for transparency in government. Its source code is available online under a permissive free software licence.³⁴
- Techio Comunitario, 2016³⁵: Originally developed in Mexico and then extended to 13 countries, Techio Comunitario is a training program aimed at people who collaborate in community and indigenous media and telecommunications projects. It provides tools for learning about free software principles and using them in practice.
- Hermes Project, 2015³⁶: Developed by Rhizomatica, an association, and implemented in Oaxaca in 2018 for testing, this system allows for internet connection over short wave radio, to provide internet connectivity for isolated communities. Its code is open source³⁷ and was awarded Mozilla's Wireless Innovation for a Networked Society 2018 prize.³⁸
- Oaxaca rural open source telecom system, 2012³⁹: Started under the initiative of Rhizomatica, this project provides open source based cellular networks at low cost. It currently operates in more than 15 cities to provide internet connectivity.⁴⁰ Aimed at isolated indigenous communities, the project's primary focus is on territory ignored by telecom operators.⁴¹ The project has been taken over by Rhizomatica's partner, Telecomunicaciones Indígenas Comunitarias (TIC AC), a community

²⁸ [INFOTEC DataBase Translation \(iDBTrans\) | INFOTEC Centro de Investigación e Innovación en TIC](#)

²⁹ <https://mda.plataformadigitalnacional.org/all/>

³⁰ [Plataformas Digitales y Sistemas de Información Locales](#)

³¹ [GitHub - PDNMX/SistemaDeclaraciones](#)

³² [GitHub - SESAEC/DeclaraFacilPI: Repositorio del Sistema DeclaraFacil PI Portable](#), released under the GPLv3 licence

³³ [Plataforma Digital Nacional](#)

³⁴ [pdnmx - Plataforma Digital Nacional · GitHub](#), the larger modules are under the MIT License, some smaller modules seem to lack licence information

³⁵ <https://techiocomunitario.org/en/v>

³⁶ [Hermes // rhizomatica](#)

³⁷ <https://github.com/Rhizomatica/hermes-gui>

³⁸ [Isolated Communities Connect Amid a Pandemic](#)

³⁹ [Rhizomatica/rccn](#) (formerly used)

⁴⁰ [Who We Are // rhizomatica](#)

⁴¹ [Where Cellular Networks Don't Exist. People Are Building Their Own | WIRED](#)

owned and operated GSM network of indigenous communities that seeks to strengthen communication under their principles and values, strengthen their languages, culture and identity and the local economy.⁴² TIC AC has earned indigenous social concessions granted in 5 States of Mexico: Oaxaca, Guerrero, Puebla, Chiapas and Veracruz.

- Sonoralibre⁴³: Begun in 2011, Sonoralibre is a virtual community of practice and learning, promoting the creation, development, use and dissemination of free and open source software from the State of Sonora. It advocated strongly for the adoption of the free software law in Sonora and helped with its formulation.^{44,45}
- BeakOS Linux, 2011⁴⁶: Developed by Infotec with a last release in 2011, this GNU/Linux distribution was available with the GNOME desktop environment (a local success story) and XFCE/FluxBox as well.
- Free Software Installation Festival, 2005⁴⁷: Started in 2003 in Colombia and further developed towards the rest of South America, this yearly festival has developed to be not only dedicated to installation of software but also to be a conference and a forum of discussions about free and open source software.

⁴² [Tic-ac](#)

⁴³ [¿Quiénes somos? – Sonoralibre.org](#)

⁴⁴ [Iniciativa de Ley – Sonoralibre.org](#)

⁴⁵ [Reciben propuestas para nutrir iniciativa de ley de software libre y código abierto para Sonora](#)

⁴⁶ [Archive BeakOs](#)

⁴⁷ <https://flisol.info/FLISOL2005>

