

Guidelines for a

State Smart Cities Strategy for Alagoas

• EXECUTIVE SUMMARY •



This Executive Summary provides a synthesis of the **Guidelines for a State Smart Cities Strategy for Alagoas** – a component of the *Visão Alagoas 2030* initiative, a technical cooperation initiative between the Government of Alagoas and the United Nations Human Settlements Programme (UN-Habitat).

The Guidelines aim to guide state-led initiatives to harness technology and local knowledge in promoting well-being and sustainable development across the state's cities and communities.

The document is structured into the following sections: methodology; conceptual and operational foundations; a brief local diagnostic; and strategic guidelines organised into 40 Thematic Objectives, six axes of action, and ten recommendations.

For the **methodology**, a literature review was conducted on the concept of smart cities, along with an analysis of national and international documents and references. In addition, dialogues were held with the state government to ensure alignment with the local context. During this stage, the conceptual and operational foundations that guided the development of the guidelines were agreed upon with professionals from the state public administration.

As a **conceptual foundation**, the “People-Centred Smart Cities” approach by UN-Habitat was adopted. The adaptation of this concept for Alagoas was formulated as Smart and Sustainable Cities and Communities (SSCC).

In Alagoas, SSCCs are those capable of applying available knowledge and technologies in a planned and targeted manner to promote the well-being of the population and sustainable development across its economic, environmental, and sociocultural dimensions, fostering integrated territorial management.

To support the implementation of this approach, the Brazilian Charter for Smart Cities and its strategic objectives were adopted as the **operational foundation**.

Based on both national and international references, twelve key themes were defined to guide the structure of the proposal:

- Health;
- Education;
- Economic development;
- Security;
- Urban mobility;
- Environment;
- Information and Communication Technologies (ICTs) and Innovation;
- Governance;
- Basic sanitation;
- Urban planning;
- Culture; and
- Tourism.

Both foundations highlight that, beyond the mere adoption of technologies, it is essential to place people at the centre of public policies. The guidelines based on this vision advocate that digital transformation in cities and communities must prioritise the needs and rights of the population, promoting inclusion, equity, and sustainability.

The **brief local diagnostic** involved the collection and analysis of secondary data from official sources to support thematic assessments of the state's context. In addition, activities such as a collaborative workshop were conducted to discuss the quantitative data collected, alongside meetings to deepen the qualitative understanding of the information. An online survey was also carried out with state departments and secretariats to map initiatives related to the smart cities' agenda.

The digital transformation context in Alagoas reveals significant progress in the institutional, legal, and technological structuring of the state. Notable developments include the establishment of regulatory frameworks, strategic councils, and programmes such as *Alagoas Mais Digital*, as well as the expansion of connectivity infrastructure and the strengthening of the innovation ecosystem through initiatives like the Jaraguá Technological Hub Innovation Centre (CIPT in Portuguese) and the *OxeTech* programme.

These actions demonstrate a growing commitment to the digitalisation of public services and the promotion of digital inclusion. Nonetheless, challenges remain, including the need for greater coordination with municipalities, integration between urban development and environmental sustainability, and the alignment of innovation efforts with the actual needs of the population.

The importance of investing in digital literacy and accessibility is also underscored, particularly in the face of an ageing population and structural digital exclusion.

For the guidelines to be effectively implemented and to enable a people-centred digital transformation, it is essential to invest in digital capacity-building, expand connectivity infrastructure, ensure ethical governance through clear regulations, and adapt strategies to the specificities of each territory in Alagoas.

In addition, the diagnostic process systematised the main strengths and challenges across the 12 thematic areas of the SSCC agenda. This process identified priority areas for action and transformation opportunities, considering Alagoas' territorial and institutional specificities.

Based on the conceptual foundations and the local diagnostic, 40 Thematic Objectives (TOs) were defined to guide a people-centred digital transformation. These objectives are linked to six axes of action and are accompanied by guidelines to inform state government action. Lastly, ten practical recommendations were outlined for short-and medium-term implementation.

STRATEGIC GUIDELINES

THE 40 THEMATIC OBJECTIVES

The TOs were developed based on an analysis of the main challenges currently faced by state management. They must be addressed in an integrated manner, in alignment with the proposed axes of action, and it is necessary, when appropriate, for the state to review, update, or establish new objectives in response to emerging demands.

THE 6 AXES OF ACTION AND THEIR 10 GUIDELINES

The Axes of Action (AA) were developed based on the foundational principles, establishing direct connections with the five pillars (P) of the "People-Centred Smart Cities" approach and the eight Strategic Objectives (SO) of the Brazilian Charter for Smart Cities. Each axis of action and its corresponding guidelines are detailed in the full version of the document.

Axis of Action 1: Connectivity and Digital Inclusion

P2 | P3 | P4 | SO.1 | SO.2 | SO.3 | SO.6 | SO.7

Expansion of digital connectivity infrastructure, communication, and digital literacy actions to address digital exclusion.

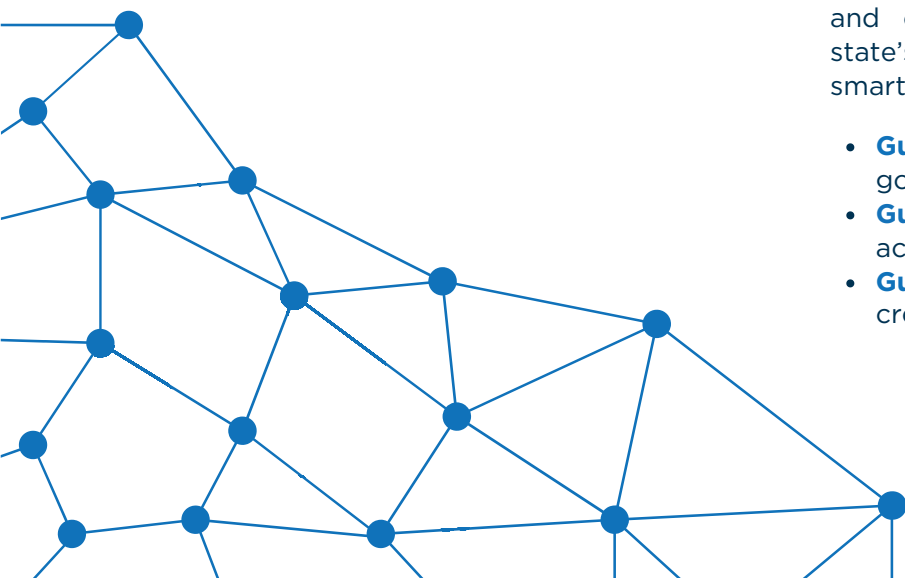
- **Guideline 1.1:** Ensure inclusive and integrated connectivity infrastructure.
- **Guideline 1.2:** Strengthen digital literacy and cybersecurity through educational and inclusive actions.

Axis of Action 2: Expansion and Transformation of Existing Initiatives

P1 | P3 | P4 | P5 | SO.1 | SO.7

Expansion and transformation of digital solutions and other existing initiatives related to the state's Thematic Objectives, to make Alagoas smarter and more sustainable.

- **Guideline 2.1:** Strengthen and modernise government digital platforms.
- **Guideline 2.2:** Promote data integration across different levels of government.
- **Guideline 2.3:** Map and encourage co-creation in digital transformation initiatives.



Axis of Action 3: Creation of Solutions and Promotion of Innovation

P1 | P2 | P3 | P4 | P5 | SO.3 | SO.4 | SO.5

Creation of solutions driven by Thematic Objectives, integrated with the local innovation ecosystem.

- **Guideline 3.1:** Encourage the creation of innovative solutions by articulating the state government, the innovation ecosystem (academia, startups, incubators, accelerators, investors, laboratories, and innovation centres), and civil society.

Axis of Action 4: Encouragement of Municipal Actions

P1 | P2 | P3 | P5 | SO.1 | SO.2 | SO.3 | SO.4

Development of interaction mechanisms with municipalities and promotion of engagement and integration of municipal bodies, aligned with the thematic objectives of the SSCC, ensuring the state advances in a more intelligent and sustainable manner.

- **Guideline 4.1:** Strengthen the state-municipality integration in Alagoas for the development of smart and sustainable cities.
- **Guideline 4.2:** Promote technical assistance for city planning focused on sustainable urban development.

Axis of Action 5: Coordination with the Federal Government

P1 | P2 | P3 | P5 | SO.1 | SO.2 | SO.3 | SO.4

Search for federal government incentives and the promotion of integrated action coordination, ensuring that the services provided to people align with the objectives of digital transformation.

- **Guideline 5.1:** Encourage digital transformation in Alagoas through intergovernmental coordination and the search for federal resources.

Axis of Action 6: Monitoring and Evaluation

P1 | P2 | SO.8

Monitoring and evaluation of the implemented actions, using indicators to measure impact and ensure necessary adjustments.

- **Guideline 6.1:** Monitoring and evaluation of digital transformation actions in Alagoas.

THE 10 RECOMMENDATIONS FOR SSCC IN ALAGOAS

The recommendations are characterised by practical actions that can be implemented in the short and medium term.

Recommendation 1

AA.1 | AA.2 | AA.3 | AA.4 | AA.5 | AA.6 | P1 | P2 | P3 | P4 | P5 | SO.1 | SO.2 | SO.3 | SO.4 | SO.5 | SO.6 | SO.7 | SO.8

Create a Smart Cities Committee in the Government of the State of Alagoas.

- Definition of the Committee's structure;
- Calling and formalisation;
- Initial planning;
- Creation of communication and monitoring tools; and
- Ongoing execution.

Recommendation 2

AA.2 | AA.6 | P1 | P2 | P3 | P4 | P5 | SO.1 | SO.7 | SO.8

Strengthen the digitalisation process of the Government of the State of Alagoas.

- Initial planning;
- Collaborative dialogue with Secretariats;
- Communication and dissemination activities;
- Interaction with end users; and
- Platform improvements.

Recommendation 3

AA.1 | AA.2 | AA.3 | AA.6 | P1 | P2 | P3 | P4 | P5 | SO.1 | SO.2 | SO.3 | SO.4 | SO.5 | SO.6 | SO.7 | SO.8

Integrate data and transparency in connectivity.

- Mapping and organisation of information;
- Creation of an information-sharing workflow;
- Monitoring of federal contracts and programmes;
- Integration with digital portals; and
- Training and awareness-raising.

Recommendation 4

AA.2 | AA.6 | P1 | P2 | P3 | P4 | P5 | SO.1 | SO.7 | SO.8

Expand and transform existing solutions.

- Planning and structuring of actions;
- Implementation of an innovation culture; and
- Creation of spaces for dialogue and cocreation.

Recommendation 5

AA.3 | AA.6 | P1 | P2 | P3 | P4 | P5 | SO.3 | SO.4 | SO.5 | SO.8

Promote the creation of solutions and innovation.

- Structuring of an innovation support programme;
- Launch of challenges and incentives;
- Training and promotion of an innovation culture;
- Creation of testing and experimentation environments; and
- Maker movement and circular economy.

Recommendation 6

AA.4 | AA.6 | P1 | P2 | P3 | P5 | SO.1 | SO.2 | SO.3 | SO.4 | SO.8

Promote collaborative activities with municipalities to achieve the thematic objectives.

- Planning and organisation of collaborative meetings;
- Holding discussion circles;
- Exchange of information on public-private partnerships and services provided by concessionaires;
- Recognition and awards;
- Training for municipalities; and
- Dissemination of results.

Recommendation 7AA.2 | AA.3 | AA.5 | AA.6 | P1 | P2 | P3 | P4 | P5
SO.1 | SO.3 | SO.4 | SO.5 | SO.7 | SO.8

Enable the use of Artificial Intelligence (AI) and the creation of virtual assistants based on Generative AI to humanise public services.

- Initial planning and diagnostic assessment;
- Development and testing of virtual assistants;
- Implementation of multichannel platforms;
- Training and capacity building;
- Data security and privacy; and
- Sectoral integration and gradual scaling.

Recommendation 8AA.1 | AA.2 | AA.3 | AA.5 | AA.6 | P1 | P2 | P3 | P4 | P5
SO.1 | SO.2 | SO.3 | SO.4 | SO.5 | SO.6 | SO.7 | SO.8

Expand the use of Artificial Intelligence through an Integrated Artificial Intelligence Plan for Digital Transformation and Sustainable Development.

A) INFRASTRUCTURE AND AI DEVELOPMENT:

- Creation of regional data centres;
- Expand access to connectivity;
- Develop an integrated data platform; and
- AI at the Jaraguá Technological Hub Innovation Centre.

B) DISSEMINATION, TRAINING, AND CAPACITY BUILDING IN AI:

- Training programmes for public sector professionals;
- Digital inclusion for vulnerable groups;
- Partnerships with academia and innovation hubs; and
- Online education platform.

C) AI FOR IMPROVING PUBLIC SERVICES (IN LINE WITH THE SEVENTH RECOMMENDATION):

- Development of multichannel virtual assistants;
- Predictive analysis for public policies; and
- Process automation.

D) AI FOR BUSINESS INNOVATION:

- Support for startups and strategic sectors;
- Regulatory sandbox (in line with the fifth recommendation);
- Startup incubation and acceleration; and
- Technology fairs and competitions.

E) SUPPORT FOR THE REGULATORY PROCESS AND AI GOVERNANCE:

- Creation of a Working Group for governance;
- Ethical guidelines and standards;
- Periodic audits; and
- Awareness campaigns.

Recommendation 9AA.1 | AA.2 | AA.3 | AA.4 | AA.6 | P1 | P2 | P3 | P4 | P5
SO.1 | SO.2 | SO.3 | SO.4 | SO.5 | SO.6 | SO.7 | SO.8

Promote digital balance and human well-being in the use of technology in education.

A) POLICIES FOR THE BALANCED USE OF TECHNOLOGY IN EDUCATION:

- Initial diagnostic and guidelines;
- Development of hybrid curricula;
- Training of teaching staff;
- Guidelines for healthy digital environments; and
- Monitoring of psychological impacts.

B) PROMOTION OF THE CIRCULAR AND COLLABORATIVE ECONOMY:

- Sustainable use of educational materials;
- Technology to support the circular economy; and
- Digital platforms for resource sharing.

Recommendation 10

AA.4 | AA.6 | P1 | P2 | P3 | P5 | SO.3 | SO.4 | SO.5 | SO.8

Encourage the development and implementation of Municipal Information and Communication Technology Master Plans (PDTIC in Portuguese) across Alagoas.

- Promote awareness campaigns for public sector professionals;
- Acknowledge and publicise the launch of PDTICs in municipalities; and
- Design and implement a recognition programme for PDTIC best practices.

As presented, the Guidelines for a State Smart Cities Strategy for Alagoas offer a strategic framework to integrate digital transformation with sustainable urban development and the improvement of well-being in the state's cities and communities.

To yield tangible results, it is essential that these guidelines be translated into feasible strategies, with structured actions, clear targets, and defined timelines, in alignment with the state government's capacities to make Alagoas more innovative, inclusive, and sustainable.

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Maceió/AL
Março de 2025

