Islamic Republic of Mauritania

Honor - Fraternity - Justice

THE MINISTRY OF DIGITAL TRANSFORMATION, INNOVATION AND MODERNIZATION OF ADMINISTRATION

2025
2029

THE NATIONAL ARTIFICIAL INTELLIGENCE STRATEGY OF MAURITANIA

2025-2029

TIMELINE

2 March 2024 — CONSULTATION WORKSHOP FOR THE NATIONAL ARTIFICIAL INTELLIGENCE STRATEGY

- FRAMEWORK FOR A NATIONAL AI STRATEGY (CONCEPT NOTE)
- COMMITTEE TO ORGANIZE A WORKSHOP ON AI
- SELECTING AI EXPERTS FOR THE WORKSHOP

11 March 2024 — APPOINTMENT OF A STRATEGY DEVELOPMENT

17 April 2024 — DRAFT 1 SHARED WITH THE AI EXPERT MOBILIZED BY GIZ

- BENCHMARK FROM 8 COUNTRIES (AFRICA, ASIA AND EUROPE)
- DRAFT 1 MAURITANIA AI STRATEGY
- DRAFT 1 SHARED WITH ESCWA, WORLD BANK, DIASPORA AND PUBLIC

25 April 2024 — DISCUSSION PANEL « MAURITANIA AI SRATEGIC PLAN » AT INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE AND ITS APPLICATIONS IN THE AGE OF DIGITAL TRANSFORMATION

16 May 2024 — DRAFT 2 (MAURITANIA AI STRATEGY 16 MAY 2024)

- FEEDBACK FROM ESCWA AND WORLD BANK

23 May 2024 — Meeting with Tum Think Tank Team mobilized by GIZ

- SHARING OF AI STRATEGY DRAFT 2, ALONG WITH COMMENT MATRICES FROM ESCWA AND THE WORLD BANK, AND THE ACTIONS TAKEN IN RESPONSE TO THESE COMMENTS.

04 July 2024

- DRAFT 3 (MAURITANIA AI STRATEGY 31 MAY 2024)

SUMMARY

1 FOREWORD

THE MINISTRY OF DIGITAL TRANSFORMATION, INNOVATION AND MODERNIZATION OF ADMINISTRATION

2 EXECUTIVE SUMMARY

The strategy for integrating Artificial Intelligence (AI) in Mauritania for the period 2025-2029 focuses on 6 strategic priorities, 16 objectives, and 38 measures aimed at:

1. Developing human skills in Artificial Intelligence (AI) and Data Science through the creation of training and certification programs, widening the range of available trainings at various academic levels, and supporting the professional integration of AI and Data Science experts.
2. Promoting research and innovation in AI by funding equipment for universities, providing public support for AI and technological entrepreneurship initiatives, and establishing sustainable financing mechanisms for research and innovation.
3. Enhancing regional and international collaborations by facilitating exchanges of students and experts, developing rules for data sharing, and participating in global and regional data governance and responsible AI initiatives.
4. Establishing data governance for AI by aiming to collect and secure datasets, enhancing skills in data management, and creating robust governance to support AI research.
5. Bolstering international connectivity, expanding fiber infrastructure, extending broadband access, cost reduction, and optimizing cloud solutions
6. Addressing ethical issues in AI by adopting policies compliant with data protection, intellectual property and enhancing cooperation for AI regulation.

This overarching strategy aims to position the country as a key player in the field of AI by developing its human resources, fostering research and innovation, promoting international collaborations, ensuring effective data governance, and advocating for the ethical use of technology.

In addition to these strategic priorities, the nation plans to implement several concrete projects to apply artificial intelligence in key sectors of its development. These projects include initiatives in healthcare, education, agriculture, fishing, transport, energy and defense, highlighting the use of AI to address crucial issues.

In healthcare, AI will enable early disease detection and monitoring of chronic illnesses. In education, an adaptive platform and teacher tracking system will enhance learning. For agriculture, water management and agricultural yield estimation will be optimized. Fishing will benefit from catch forecasts and marine area monitoring. By integrating AI into transportation, the country advances its digital transformation, unlocking new opportunities and boosting global competitiveness. Additionally, using AI to optimize energy production enhances resource efficiency and reduces greenhouse gas emissions. By incorporating AI into its national defense systems, the country proactively safeguards its national interests while bolstering sustainable regional security efforts.

These projects aim to modernize and improve the management of resources and essential services for Mauritania's sustainable development.

THE NATIONAL ARTIFICIAL INTELLIGENCE STRATEGY OF MAURITANIA 2024-2029

MAURITANIA'S AI STRATEGY IS TO BOOST TECHNOLOGICAL INNOVATION AND ECONOMIC GROWTH, WHILE TRANSFORMING PUBLIC SERVICES FOR MAXIMUM PERFORMANCE.

2025 - 2029

3 CONTEXT

3.1. INTRODUCTION

The national artificial intelligence strategy of Mauritania represents a crucial step in the country's digital transformation and economic development. In response to the challenges and opportunities posed by the advent of artificial intelligence (AI), this strategy aims to position the country as a key player in technological innovation and to fully harness the potential of AI for the well-being of its citizens.

This strategy holds paramount importance for Mauritania as it aims to catalyze economic growth, drive innovation, optimize public services, and enhance the competitiveness of the private sector. By strategically investing in the field of artificial intelligence, the country is committed to modernizing its infrastructure, streamlining the use of its resources, and fostering the emergence of an ecosystem conducive to the development of startups and innovative technology companies. This approach is based on a foundation of essential principles including strengthening skills in AI and Data Science, fostering research and innovation in AI, promoting both regional and international cooperation, establishing data governance standards specifically tailored to artificial intelligence, and finally, advocating for promoting ethics in all AI applications.

The implementation of this strategy is based on an ambitious vision and clear objectives, supported by a firm commitment to digital inclusion and sustainable development. Through this initiative, Mauritania aims to seize the opportunities offered by the technological revolution while ensuring that its benefits accrue to the entire society.

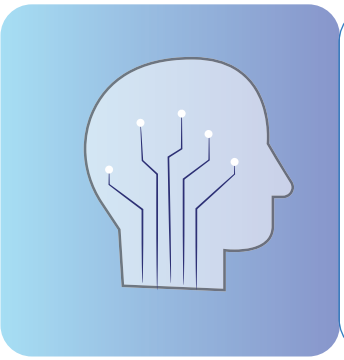
3 CONTEXT

WHAT IS AI ?

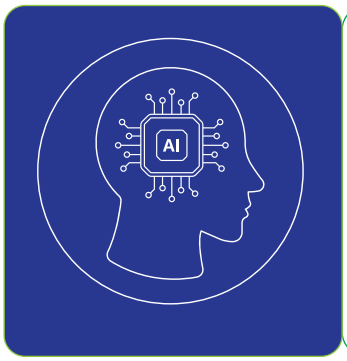
An AI system is a machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments. Different AI systems vary in their levels of autonomy and adaptiveness after deployment. **OECD**

AI brings enormous benefits to the digital era, but it can also significantly compromise the safety and agency of users worldwide. Enhanced multi-stakeholder efforts on global AI cooperation are needed to help build global capacity for the development and use of AI in a manner that is trustworthy, human rights-based, safe and sustainable, and promotes peace. UN Secretary General

AI SYSTEMS CAN BE CLASSIFIED INTO TWO BROAD CATEGORIES:



Narrow AI (Weak AI): This type of AI is designed to perform a specific task or a narrow range of tasks. Examples include voice recognition systems, recommendation algorithms, image recognition software, and autonomous vehicles. Narrow AI systems excel in their specific tasks but do not possess general intelligence or consciousness.



General AI (Strong AI): General AI refers to machines that exhibit intelligence like humans across a wide range of tasks and domains. These hypothetical systems would have the ability to understand and learn from diverse experiences, apply knowledge to new situations, engage in complex reasoning, and demonstrate creativity. General AI remains an ongoing subject of research and development.

3.2. CURRENT SITUATION IN THE COUNTRY

The country stands at a crucial crossroads in its technological and economic development, as evidenced by its scores in key indices such as the EGovernment Development Index (EGDI) , the Global Cybersecurity Index (GCI), and the Global Innovation Index (GII). With an e-Gov score of 0.31 in 2022, placing the nation at 172 out of 193 evaluated countries, Mauritania demonstrates untapped potential in the field of e-governance. Similarly, its GCI score of 18.94 in 2022 and its ranking at 133 highlight the need to strengthen cybersecurity. Regarding innovation, the country presents a score of 13.52 in the 2023 GII, ranking 127, indicating a need for impetus in the field of innovation. In the Government AI Readiness Index 2022, published by Oxford Insights, the nation scored 19.37, ranking 150 out of 181 countries, underscoring significant opportunities for growth in integrating AI into public services.

These figures highlight the importance for the country to quickly integrate into the world of artificial intelligence (AI). By strengthening its capacity in e-government, fortifying cybersecurity measures, and innovation, the nation can create an environment to the adoption and effective utilization of AI. AI offers significant opportunities to improve government services, fortify cybersecurity measures and encourage innovation in various sectors. Therefore, by leveraging AI, the country can accelerate its economic and technological development and advance its position on the international stage at the same time.

3.3. SWOT ANALYSIS

SWOT ANALYSIS

Weaknesses

- The country is deficient in AI skills and resources in various fields.
- Gaps in technological infrastructure
- Current regulatory frameworks not adapted to AI
- Social acceptance of AI.

Opportunities

- Governmental focus on utilizing artificial intelligence.
- High demand for workforce in AI-related tasks.
- Opening new markets and creating job opportunities.
- Supporting innovation and bridging the developmental gap.
- AI and Machine Learning could solve many governmental problems, such as inferring knowledge from data, detecting and averting security threats, fake news detection, etc.
- There are many problems related to lack of technical expertise that knowledge based systems could solve in many domains, such as healthcare, transportation, agriculture, etc.

Strengths

- **The country's technological assets :**
  - Significant advancement in the deployment of digital infrastructure.
  - Growth in foreign investments in information and communication technologies.
- **Ecosystem :**
  - CSIDS research unit (Scientific Computing, Informatics and Data Science)
  - The Higher Institute of Digital Technology (SupNum).
  - Existence of AI startups
  - IT project incubators
- **National and international partnerships**
  - The existence of the National Digital Transformation Agenda 2022-2025, the National Digital Security Strategy 2022-2025, and the National Research and Innovation Strategy 2022-2026.

Threats

- Neglect of legislative bodies regulating the use of technology.
- Loss of traditional jobs and creation of new ones.
- Brain drain talents due to the lack of conducive environment for innovation.
- Cyber security and threats of artificial intelligence technology.
- Shortage of research and academic studies in AI technologies.
- Decreased availability of data due to limiting changes in open data policies.

4 STRATEGY OVERVIEW

FOCUS + PILLARS

HEALTH

- PROJECT 4.7.1
  Early disease detection through the analysis of medical images.
- PROJECT 4.7.2
  System for monitoring and predicting chronic diseases
- PROJECT 4.7.3
  Telemedicine and remote care

EDUCATION

- PROJECT 4.8.1
  AI serving students
- PROJECT 4.8.2
  AI serving teachers
- PROJECT 4.10.3
  AI serving institutions
- PROJECT 4.8.4
  Multilingual translation for linguistic cohesion in Mauritania

AGRICULTURE

- PROJECT 4.9.1
  Smart Water Management System for the Senegal River
- PROJECT 4.9.2
  Agricultural yield estimation platform
- PROJECT 4.9.3
  AI system for early detection of plant diseases
- PROJECT 4.9.4
  Forecast and agricultural planning for optimal resource

FISHING

- PROJECT 4.10.1
  Fish catch prediction system
- PROJECT 4.10.2
  Surveillance and management of marine protected areas
- PROJECT 4.10.3
  Satellite surveil-lance for fishing fleet detection

TANSPORT

- PROJECT 4.11.1
  Management of goods flows for import and export
- PROJECT 4.11.2
  Clustering of Logistic data

ENERGY

- PROJECT 4.12.1
  Optimization of gas reservoir management
- PROJECT 4.12.2
  Optimization of hybrid wind-solar energy production

DEFENCE

- PROJECT 4.13.1
  Development of autonomous ISR (Intelligence, Surveillance, and Reconnaissance) systems
- PROJECT 4.13.2
  Criminal detec-tion via Internet

	OBJECTIVES	MEASURES
ENHANCING HUMAN CAPACITIES IN AI AND DATA	3	8
RESEARCH & INNOVATION IN AI	3	10
REGIONAL AND INTERNATIONAL COOPERATION	2	4
DATA GOVERNANCE FOR AI	1	3
DIGITAL INFRASTRUCTURE	5	11
AI ETHICS	2	2

STRATEGY PILLARS

The National Artificial Intelligence Strategy of Mauritania is built on several key pillars designed to catalyze the country's technological and economic development. These pillars aim to enhance human capacities in AI and data science, promote research and innovation, strengthen regional and international cooperation, establish robust data governance for AI, develop advanced digital infrastructure, and ensure ethics in AI usage. Each of these pillars is supported by specific objectives and concrete measures to ensure the effective and sustainable implementation of the strategy.

STRATEGY PILLARS

ENHANCING HUMAN CAPACITIES IN AI AND DATA SCIENCE

Objective 4.1.1	Provide training in the field of AI and Data Science.
Objective 4.1.2	Facilitate the professional integration of individuals trained in AI and Data Science.
Objective 4.1.3	Enhance human capacities in dataset management.

RESEARCH & INNOVATION IN AI

Objective 4.2.1	Support AI training and research.
Objective 4.2.2	Develop sustainable financing mechanisms for research and innovation.
Objective 4.2.3	Create centers of excellence in AI R&D.

RESEARCH & INNOVATION IN AI

Objective 4.3.1	Enhace sub-regional and international collaborations.
Objective 4.3.2	Participate in global data governance and responsible AI.

DATA GOVERNANCE FOR AI

Objective 4.4.1	Collect and securely make datasets available.

DIGITAL INFRASTRUCTURE

Objective 4.5.1	Strengthen international connectivity and provide Mauritania with the infrastructure needed to be a hub of regional connectivity
Objective 4.5.2	National fibre backbone extension
Objective 4.5.3	Extend the connection of all municipalities in High Speed Broadband/Very High Speed Broadband (HD/THD), with the locally adapted technology
Objective 4.5.4	Develop uses and reduce costs
Objective 4.5.5	Optimize Cloud Computing Solutions for Enhanced Collaboration and Data Accessibility

AI ETHICS

Objective 4.6.1	Implement policies to comply with data protection regulations.
Objective 4.6.2	Strengthen cooperation in AI regulation

4.1 ENHANCING HUMAN CAPACITIES IN AI AND DATA SCIENCE

We aim to develop skills and expertise in the field of AI and Data Science by investing in training and professional integration of individuals to meet the growing needs of the sector and foster innovation.

Objective 4.1.1	Provide training in the field of AI and Data Science.
Objective 4.1.2	Facilitate the professional integration of individuals trained in AI and Data Science.
Objective 4.1.3	Enhance human capacities in dataset management.

Objective 4.1.1 Provide training in the field of AI and Data Science.

Measures

- Implementation of learning platforms to provide an interactive and accessible learning environment for all learners interested in AI and Data Science.
- Increasing the number of AI courses at various academic levels (post-secondary, Bachelor's, and Master's) to meet the growing demand for qualified professionals in these fields.
- Organizing training and certification programs in the public sector to enable public sector professionals to acquire skills in AI and Data Science and remain competitive in the job market.

Objective 4.1.2 Facilitate the professional integration of individuals trained in AI and Data Science.

Measures

- Organization of recruitment forums and specific job fairs to connect individuals trained in AI and Data Science with potential employers and facilitate their professional integration.
- Implementation of corporate internship programs to foster the acquisition of practical skills and provide learners with the opportunity to apply their knowledge in a professional environment.
- Establishment of interdisciplinary university curricula linked to sectoral needs to ensure that AI and Data Science training meets the requirements of the job market and technological advancements.

Objective 4.1.3 Enhance human capacities in dataset management.

Measures

- Establishment and implementation of a capacity-building program to train professionals in the effective and ethical management of big data.
- Offering training sessions and workshops on data management to develop the technical and strategic skills necessary for optimal use of datasets.

4.2 RESEARCH & INNOVATION IN AI

The main objective of this strategic priority is to support research and innovation in AI by promoting the development of advanced technological solutions and encouraging collaborations between academic and industrial stakeholders.

Objective 4.2.1	Support training and research in AI
Objective 4.2.2	Develop sustainable financing mechanisms for research and innovation
Objective 4.2.3	Create centers of excellence in AI R&D

Objective 4.2.1 Booste AI through Enhanced Universities, Public Support, and Talent Funding

Measures

- Equipe universities and promote partnerships in AI to ensure an environment conducive to research and learning.
- Prioritize public support for AI and tech entrepreneurship to stimulate innovation and the emergence of startups specialized in AI.
- Establishe funding to attract talent and encourage individuals to engage in research and innovation activities in AI.
- Encourage collaboration between the academic and industrial sectors in the field of AI.
- Expand AI-focused projects in doctoral programs to encourage research and innovation in specialized areas of AI.

Objective 4.2.2 Develop sustainable financing mechanisms for Research and Innovation

Measures

- Grants and incentives for AI technology funds to financially support research and innovation projects in AI.
- Enhancement of institutional support for entrepreneurship and innovation structures to foster the emergence of new players and the growth of innovative AI companies.
- Support for research and development projects leveraging data to encourage the effective use of data in AI research and innovation activities.

Objective 4.2.3 Create centers of excellence in AI R&D

Measures

- Create clusters and centers of excellence in AI to bring together key stakeholders in the field, promote exchange of expertise, and stimulate innovation.
- Mechanisms for temporary detachment of academics to AI centers of excellence to encourage knowledge sharing and collaboration between researchers and practitioners.
- Establish an Artificial Intelligence Institute to concentrate resources and efforts on cutting-edge research and development projects in AI.

4.3 REGIONAL AND INTERNATIONAL COOPERATION

Our priority is to strengthen regional and international partnership and exchanges to facilitate the sharing of knowledge, resources, and best practices in AI. By adhering to the ethical standards of the Arab League and the African Union, we emphasize our commitment to regional collaboration. Additionally, we align with the standards of the United Nations to ensure our practices are in line with global best practices, with encompass the entire world.

Objective 4.3.1	Strengthen sub-regional and international collaborations
Objective 4.3.2	Participate in global and regional data governance and responsible AI

Objective 4.3.1 Strengthen sub-regional and international collaborations

Measures

- Promo student, expert, and academic exchanges to facilitate the sharing of knowledge and the development of diversified expertise in AI on a global scale, with a focus on including girls, women, and rural regions.
- Develop regulations and infrastructure for data sharing to facilitate collaboration and access to data necessary for AI research and innovation.
- Enhance institutional cooperation and collaboration to encourage strategic partnerships between academic, industrial, and governmental actors in the field of AI.

Objective 4.3.2 Participating in global and regional data governance and responsible AI

Measures

- Encouraging active participation of national experts in international studies to contribute to the development of responsible standards and practices in AI and data management globally.

THE NATIONAL ARTIFICIAL INTELLIGENCE STRATEGY OF MAURITANIA 2025-2029

4.4 DATA GOVERNANCE FOR AI

This priority aims to ensure secure collection, storage, and sharing of data to support research and innovation in AI.

Objective 4.4.1 Collect and securely make datasets available

Measures

- Definite and implementation procedures for collecting and providing data to ensure their integrity, security, and accessibility to authorized parties.
- Sharintg and develop data infrastructures to promote collaboration and exchange of information while ensuring the protection of sensitive data.
- Utilize of encryption technologies and data protection to enhance the security and confidentiality of stored and exchanged informatio.
- Provide regulatory frameworks that mandate data sharing in an anonymous manner.

THE NATIONAL ARTIFICIAL INTELLIGENCE STRATEGY OF MAURITANIA 2025-2029

4.5 DIGITAL INFRASTRUCTURE

This strategic priority is already part of the 2022-2025 digital agenda and will be utilized for the implementation of AI. Additionally, technologies adapted for artificial intelligence, such as Machine Learning as a Service, Mass Data Storage as a Service, and Data Integration as a Service, among others, will be incorporated to enhance its effectiveness.

Objective 4.5.1	strengthen international connectivity and provide Mauritania with the infrastructure needed to be a hub of regional connectivity
Objective 4.5.2	National fiber backbone extension
Objective 4.5.3	Extend the connection of all municipalities in High Speed Broadband/Very High Speed Broadband (HD/THD), with the locally adapted technology
Objective 4.5.4	Develop uses and reduce costs
Objective 4.5.5	Optimize Cloud Computing Solutions for Enhanced Collaboration and Data Accessibility

Objective 4.5.1 strengthen international connectivity and providing Mauritania with the infrastructure needed to be a hub of regional connectivity

Measures

- Make a second underwater connection with a landing station in Nouadhibou
- Boost international connection via ground cables
- Make a third underwater connection with a landing station in Nouakchott

Objective 4.5.2 National fiber backbone extension

Measures

- Extend the backbone to connect all the capitals of Wilayas (regions), Moughataas (departments), and municipalities, and to create loops to secure connectivity
- Connectivity of villages and municipalities near the backbone

Objective 4.5.3 Extend the connection of all municipalities in High Speed Broadband/Very High Speed Broadband (HD/THD), with the locally adapted technology

Measures

- -New-Deal-Mobile for Mauritania to accelerate the improvement of coverage and quality of service
- Launch 5G pilot project

Objective 4.5.4 Develop uses and reduce costs

Measures

- Create of a Datacenter Tier 3 and create a 2nd and 3rd internet exchange point.

Objective 4.5.5 Optimize Cloud Computing Solutions for Enhanced Collaboration and Data Accessibility

Measures

- Enhance our meaningful collaboration with key compute industry stakeholders, spanning from chip manufacturers to Cloud Service Providers (CSPs), in order to ensure local availability of computational resources
- Create a public data space for secure information sharing among AI research stakeholders, thus fostering collaboration and innovation.
- Implemented specific cloud platforms, tailored to sectoral needs to facilitate storage, processing, and access to data in a secure and scalable environment.

4.6 AI ETHICS

This strategic priority focuses on ensure that the development and utilization of artificial intelligence complies with stringent ethical and legal standards. These standards encompass safeguarding personal data, ensuring data protection and privacy, respecting intellectual property rights, and adhering to pertinent regulations. Our commitment to upholding the ethical standards of the Arab League, the African Union and the United Nations is integral to accomplishing this strategy.

Objective 4.6.1	Implement policies to comply with data protection and intellectual property regulations
Objective 4.6.2	Strengthening cooperation in AI regulation

Objective 4.6.1 Implement policies to comply with data protection and intellectual property regulations

Measures

- Training employees in privacy management practices to raise awareness and accountability among internal stakeholders regarding the protection of personal data and the importance of compliance with regulations.

Objective 4.6.2 Strengthening cooperation in AI regulation

Measures

- -Participate in the development of common standards and ethical frameworks through international working groups to contribute to the establishment of shared ethical guidelines and principles globally.

THE NATIONAL ARTIFICIAL INTELLIGENCE STRATEGY OF MAURITANIA 2025-2029

STRATEGY FOCUS

The country is preparing to position itself at the forefront of innovation by developing a strategy to integrate Artificial Intelligence into key sectors of its development. This strategic direction will encompass a diverse range of areas, including health, education, agriculture, fishing, transport, energy, and defense. Each of these sectors is expected to benefit from specific AI projects that will be designed to enhance services, optimize processes, and stimulate the country's economic growth.

STRATEGY FOCUS SECTOR APPLICATIONS

HEALTH — 3 PROJECTS

Project 4.7.1	Provide training in the field of AI and Data Science.
Project 4.7.2	Facilitate the professional integration of individuals trained in AI and Data Science.
Project 4.7.3	Telemedicine and remote care

EDUCATION — 4 PROJECTS

Project 4.8.1	AI serving students
Project 4.8.2	AI serving teachers
Project 4.8.3	AI serving institutions
Project 4.8.4	Multilingual translation for linguistic cohesion in Mauritania

AGRICULTURE — 4 PROJECTS

Project 4.9.1	Intelligent management system for the Senegal river's water
Project 4.9.2	Agricultural yield estimation platform
Project 4.9.3	AI system for early detection of plant diseases
Project 4.9.4	Forecast and agricultural planning for optimal resource management

FISHING — 3 PROJECTS

Project 4.10.1	Fish catch prediction system
Project 4.10.2	Surveillance and management of marine protected areas
Project 4.10.3	Satellite surveillance for fishing fleet detection

TRANSPORT — 2 PROJECTS

Project 4.11.1	Management of goods flows for import and export
Project 4.11.2	Clustering of logistic data

ENERGY — 2 PROJECTS

Project 4.12.1	Optimization of gas reservoir management
Project 4.12.2	Optimisation of hybrid wind-solar energy production

DEFENSE — 2 PROJECTS

Project 4.13.1	Development of autonomous ISR (Intelligence, Surveillance, and Reconnaissance) systems for surveillance and reconnaissance
Project 4.13.2	Criminal detection via digital media

4.7 HEALTH

In the field of health, the strategy will include several projects. Firstly, it will focus on early disease detection through the analysis of medical images, providing precise tools to identify conditions at the earliest stages. Secondly, it will aim to establish a system for monitoring and predicting chronic diseases, enabling proactive and personalized management of long-term pathologies. Finally, telemedicine and remote care will play an essential role, facilitating access to healthcare services in remote areas and improving the relevance of medical interventions conducted remotely.

Objective 4.7.1 Early disease detection through the analysis of medical images

Implementation of an AI system for early detection of signs of diseases from medical images such as X-rays, MRIs, and CT scans, including:

- Identifying anomalies or precursors of heart diseases.
- Detecting early stages of cancer.
- Identifying neurological disorders at an early stage.

Objective 4.7.2 System for monitoring and predicting chronic diseases

A project aimed at developing an AI system for real-time monitoring of medical data from patients with chronic diseases such as diabetes, hypertension, cardiovascular diseases, or pulmonary diseases. AI will analyze this data to:

- Identify trends in health parameters.
- Predict acute episodes or potential complications.
- Recommend personalized interventions for each patient.

For example, the system would alert doctors and patients in case signs of decompensation are detected, thus enabling proactive disease management and reducing emergency hospitalizations.

Objective 4.7.3 Telemedicine and relevant remote care

The virtual medical consultations project aims to improve accessibility to healthcare. It is divided into two main axes:

- **Online Consultations:**

  Telemedicine with AI offers remote patient monitoring, diagnostic assistance, virtual consultations, predictive analytics, and treatment optimization, improving healthcare accessibility and outcomes while ensuring data security and continuous learning for enhanced performance.

- **Remote Monitoring of Chronic Diseases:**

  This aspect of the project will enable patients with chronic diseases to benefit from regular remote monitoring. Connected devices will be used to monitor their vital parameters such as blood pressure and blood sugar levels, and this data will be shared with their doctors for appropriate follow-up. For example, the project includes the implementation of an AI system to analyze this data and recommend personalized interventions, if necessary, thereby reducing the risks of complications and emergency hospitalizations.

4.8 EDUCATION

This strategy will integrate artificial intelligence technologies into the field of education through projects aimed at serving all stakeholders in the educational system. one the one hand , these projects will be used to enhance student learning by providing interactive tools and programs specifically designed to meet their needs, thereby boosting their academic success. On the other hand, teachers will benefit from these projects by creating innovative educational content, analyzing student performance, and tailoring instruction based on each student's individual progress.

At the institutional level, these projects will assist educational institutions in improving resource management, curriculum planning, and decision-making based on accurate data and in-depth analyses.

Additionally, this strategy includes a project for translating various national dialects, which aims to enhance social cohesion by facilitating linguistic communication and access to knowledge resources in the different dialects used in the country.

Objective 4.8.1 AI serving students

This axis includes several projects:

- **Personalised Learning:** AI will be deployed to analyse past performance, learning preferences, and specific needs of each student, thereby recommending tailored activities and resources, providing a bespoke educational experience.
- **Online Learning Platform:** An online learning platform will be developed, integrating AI to offer personalised educational content, tailored to the pace and individual needs of each learner.
- **Programming and Continuing Education:** The project will also include the integration of specific programming training and continuous education into the educational system, thus preparing students with the essential digital skills.
- **Personalised Support:** Smart tutoring systems using AI will be deployed to provide individualised support to students, thereby promoting their academic success.
- **Facilitated Interaction:** AI-based conversational agents will be implemented to facilitate interaction and assistance for students in their learning.
- **Accurate and Instant Assessment:** Automated formative assessment systems using AI will provide precise and instant feedback to students on their progress and skills.
- **Optimised Coordination:** Lastly, AI-based learning network orchestrators will ensure coordination and optimisation of educational processes on a large scale, thus ensuring overall efficiency in the education system.

Objective 4.8.2 AI serving teachers

This axis includes several projects:

- **Personalized training through adaptive learning and assessment:** Helping teachers personalize and enhance each student's learning experience using adaptive learning methods and personalized assessments.
- **Plagiarism detection:** Implementing AI-based tools and techniques to detect plagiarism and promote academic integrity within educational institutions.
- **Classroom monitoring:** Utilizing AI-based monitoring systems to effectively monitor classroom interactions, provide real-time feedback, and enhance student engagement.
- **Classroom orchestration:** Developing classroom orchestration solutions that integrate AI elements to optimize the organization of pedagogical activities, time management, and collaboration among students.

Objective 4.8.3 AI serving institutions

This axis includes several projects:

- **Admissions:** Use artificial intelligence to enhance the process of selecting the most suitable candidates according to the criteria set by the institution.
- **Course and schedule planning:** Develop AI programs to optimize course planning and scheduling, thereby enabling effective management of academic resources and activities..
- **School security:** Apply AI systems to enhance school security, particularly through intelligent monitoring of infrastructure and access points.
- **Early identification of at-risk students:** Using AI to detect early signs of struggling or at-risk students, to implement appropriate preventive interventions.
- **e-Proctoring:** Deploy AI-based e-monitoring solutions to ensure effective and secure remote monitoring of exams and ensure the integrity of assessments.
- **Teacher assignments:** Propose teacher assignments based on their skills, abilities, and institutional preferences, through AI-driven analytics for optimal allocation of human resources.

Objective 4.8.4 Multilingual translation for linguistic cohesion in Mauritania

This project aims to capitalize on advances in artificial intelligence to facilitate translation between national dialects (Hassaniya, Pulaar, Soninke and Wolof) into Arabic and French. Using advanced natural language processing techniques, such as pre-trained language models and neural networks, the machine translation system will enable speakers of local dialects to communicate more effectively in different contexts, from public administration to commercial exchanges. The goal is to create a user-friendly user interface that provides accurate and fluent translations, thereby promoting linguistic and cultural cohesion within Mauritania while fostering understanding and harmonious communication between the country's diverse linguistic communities.

4.9 AGRICULTURE

The integration of AI in the agriculture sector will lead to a major revolution in the sector through several projects such as the implementation of a smart water management system for the Senegal River. This project aims to optimize the use of water resources in real time by integrating meteorological data, forecasting models, and IoT sensors for accurate and efficient irrigation.

Another important development is the creation of an AI-based agricultural crop estimation platform. This platform analyzes massive data sets, including historical, meteorological and soil data, to accurately predict crop yields. This allows farmers and policymakers to adopt more efficient farming practices and plan their activities accordingly.

In parallel, a customized AI system is being developed for the early detection of plant diseases. Using machine learning and computer vision techniques, this system can quickly identify signs of disease or stress in crops, enabling early intervention to mitigate crop losses.
Finally, the use of AI to predict the availability of resources such as water, soil, inputs, etc., as well as to plan production based on market demand, offers new opportunities for sustainable and profitable agriculture. These developments will put Mauritania at the forefront of smart agriculture, contributing to enhancing food security and spurring the country's economic development.

Objective 4.9.1 Smart Water Management System for the Senegal River

Artificial intelligence will be leveraged for real-time monitoring of the hydrological parameters of the river, including flow rate, water levels, weather forecasts, and other relevant data. This system will have the capability to:

- Integrate 5G drones and edge computing for real-time monitoring of water levels and distribution. Drones equipped with high-resolution sensors will provide precise data, while edge computing will process the data directly in the field, reducing latency and enabling faster interventions.
- Utilize advanced AI prediction models to determine water needs and optimize irrigation schedules based on real-time data from IoT sensors, weather forecasts, and historical data.
- Optimize the management of hydraulic infrastructures such as dams, irrigation canals, and reservoirs by adjusting water flows effectively and sustainably, based on the needs identified by AI.
- Predict seasonal fluctuations such as periods of flooding and drought, thereby enabling early planning and judicious use of the river's water resources for activities such as agriculture, livestock farming, provision of drinking water, and other essential needs.

Objective 4.9.2 Agricultural yield estimation platform

Artificial intelligence will be utilized to develop an advanced agricultural yield estimation platform. This platform will leverage state-of-the-art technologies to accurately predict crop yields by analyzing extensive data sets, including historical data, meteorological information, and soil data. The updated system will include the following enhancements:

- **Integration of Deep Learning Models:** Use advanced deep learning models, such as convolutional neural networks (CNNs), to analyze images from drones and satellites, providing detailed insights into crop health and yield predictions.
- **Utilization of 5G Drones and IoT Sensors:** Incorporate drones equipped with high-resolution sensors and 5G technology to capture real-time data on crop conditions. IoT sensors placed in the fields will continuously monitor soil moisture, temperature, and other critical parameters.
- **Edge Computing for Real-Time Data Processing:** Employ edge computing to process data directly in the field, reducing latency and enabling faster, more accurate yield predictions.
- **Advanced AI Prediction Models:** Implement AI models that analyze the collected data to forecast crop yields accurately, considering factors like weather patterns, soil conditions, and historical trends.

These technological advancements will enable farmers and policymakers to adopt more efficient farming practices and plan their activities more effectively, ensuring better resource management and increased agricultural productivity.

Objective 4.9.3 AI system for early detection of plant diseases

This pilot project will have a significant impact on farmers and the entire agricultural sector in terms of operational efficiency, reduced costs and improved yields.

- **Increased operational efficiency:** Through early detection of plant diseases by the AI-based system, farmers will be able to quickly intervene to limit the spread of diseases and minimize crop losses. This will lead to more efficient management and better crop protection.
- **Reduce costs:** By identifying diseases early, the project will enable farmers to reduce costs associated with excess or unnecessary agricultural treatments. In addition, overall expenses will be reduced through the optimal use of resources such as pesticides and fertilizers.
- **Improved yields:** By minimizing crop losses caused by plant diseases, farmers will see a significant improvement in their yields. Proactive disease management will also help maintain the quality of agricultural products, which can translate into higher selling prices in the market.
- **AI-Powered Mobile Solution:** Develop mobile solutions that allow farmers to monitor and manage plant health efficiently. These solutions will integrate image acquisition modules and environmental sensors to gather comprehensive data for analysis.
- **Integration with IoT Sensors:** Incorporate IoT sensors to continuously monitor environmental conditions such as temperature, humidity, and soil moisture. This real-time data will be used alongside visual data to enhance the accuracy of disease detection.

Objective 4.9.4 Forecast and agricultural planning for optimal resource management

This project aims to enhance the management of agricultural resources using advanced technologies to predict the availability of resources such as water, soils, agricultural inputs, etc. It includes the following actions:

- **Soil Component Detection:** Innovative methods, including Cosmic-Ray Neutron Sensing (CRNS) technology combined with IoT sensors and machine learning, will provide precise, non-invasive soil moisture measurements, improving irrigation efficiency and soil water management.
- **Water Quantity Prediction for Irrigation:** Using predictive models and climate data, the system will accurately estimate water requirements for crop irrigation. The autonomous irrigation system, leveraging AI and IoT technologies, will utilize real-time soil moisture levels, weather data, and SAP flow information to automate and optimize irrigation schedules, ensuring efficient water use.
- **Estimation of Fertilizer Requirements:** By integrating data on crops, soils, and desired yields, the project will provide accurate fertilizer estimates, minimizing losses and environmental impacts. IoT sensors and AI algorithms will optimize climate and nutrient management, with real-time monitoring dynamically adjusting conditions for optimal crop growth.
- **Additional Enhancements:** NDVI analysis and IoT sensors will monitor crop health and yield, using smart sampling methods to collect detailed data on soil and leaf measurements, crop water potential, and yield, leading to better resource management and reduced environmental impact.

THE NATIONAL ARTIFICIAL INTELLIGENCE STRATEGY OF MAURITANIA 2025-2029

4.10 FISHING

The integration of artificial intelligence into the fishing sector will constitute a major step towards more effective and sustainable management of maritime resources. It will rely on essential tools such as fishing forecasting systems, monitoring and management of marine protected areas, and satellite surveillance to detect fishing fleets. With these tools, AI-based systems will be able to accurately predict optimal fishing zones, monitor and protect sensitive marine ecosystems, and detect illegal fishing activities, thus ensuring a more sustainable and responsible use of the country's marine resources.

Objective 4.10.1 Fish catch prediction system

Fishing Prediction System This project aims to develop an AI-based system to predict the specific marine areas for fishing, bringing significant benefits to the fishing industry:

- **Optimizing fishing operations:** By accurately predicting the areas where fishermen are most likely to achieve a successful catch,
- **Reducing the costs associated with searching for fish populations:** By directing fishermen to authorized fishing areas, the system facilitates the reduction of the costs associated with this process. This reduction in search costs will lead to improved profitability in the fishing industry.
- **Sustainable management of marine resources:** By targeting fishing areas more precisely, the system promotes more sustainable management of marine resources by avoiding overfishing. This helps conserve fish stocks and ensures the long-term sustainability of fishing activities.

Objective 4.10.2 Surveillance and management of marine protected areas

The objective of this project is to develop an AI-based system for predicting the specific marine areas for fishing. This will bring significant benefits to the fishing industry.

- **Proactive monitoring of marine activities:** The system will collect real-time data on marine activities, biodiversity and fishing practices via innovative technologies such as marine drones, underwater cameras and IoT sensors. This will enable proactive monitoring and in-depth understanding of the maritime environment.
- **Abnormal behavior detection:** The system will be designed to detect abnormal behavior, enabling the rapid identification of suspicious or non-compliant activities in marine protected areas. This will help prevent illegal fishing, pollution and other practices detrimental to the marine ecosystem.
- **Fish species monitoring:** By monitoring fish species, the system will contribute to more effective management of marine resources by identifying trends towards over- or under-exploitation. This will enable appropriate conservation and management measures to be taken to ensure the sustainability of fish species.
- **Reporting unauthorized activities:** The system will enable the reporting of any unauthorised human activities, allowing the relevant authorities to take action swiftly to protect the marine environment.

Objective 4.10.3 Satellite surveillance for fishing fleet detection

This project, which focuses on using satellite data and artificial intelligence techniques to monitor and detect fishing fleet activities, offers several significant advantages and contributions:

- **Identification and Monitoring of Fishing Vessels:** The system enables the identification and tracking of fishing vessels, ensuring continuous and accurate monitoring of their activities at sea.
- **Detection of Intensive Fishing Areas:** Through the analysis of satellite data and the use of artificial intelligence algorithms, the system can identify areas where fishing is particularly intense, helping to understand the pressures on marine resources.
- **Analysis of Fishing Fleet Movement Patterns:** The system studies the movement patterns of fishing fleets, providing valuable insights into their behaviors and activities in different maritime zones.
- **Effective Management of Marine Resources:** By providing accurate information on fishing fleet activities, the system helps authorities better manage marine resources, make informed decisions for sustainable ocean exploitation, and prevent overfishing.
- **Combatting Illegal, Unreported, and Unregulated Fishing:** The system contributes to combating illegal, unreported, and unregulated fishing by identifying vessels operating illegally, thereby enhancing surveillance and control measures.

THE NATIONAL ARTIFICIAL INTELLIGENCE STRATEGY OF MAURITANIA 2025-2029

4.11 TRANSPORT

The integration of artificial intelligence in the transportation sector is a crucial step for economic development. Current efforts are focused on key projects such as managing incoming and outgoing freight flows, aggregating logistics service data, and monitoring temperatures for hydrocarbon storage. These projects aim to improve operational efficiency, reduce logistical costs, and enhance operational safety, thereby boosting international trade and ensuring sustainable resource management.

Objective 4.11.1 Management of goods flows for import and export

TThis project focuses on managing the flow of goods for import and export through the use of AI, leveraging advanced techniques to predict and analyze the movement of goods. Key components include:

- Predicting volumes and fluctuations in international markets.
- Supporting strategic decision-making for businesses and governmental bodies.
- Optimizing inventory management, reducing transportation costs, and improving logistics planning.
- Utilizing AI to enhance truck flow and increase the efficiency of transport operations.

Objective 4.11.2 Clustering of Logistic data

The objective of this project is to monitor seasonal trends and sectoral patterns and phenomena by analyzing logistics data, which offers several advantages.

- The project identifies demand patterns by aggregating logistics data. By doing so, the project is able to identify demand patterns for different sectors and seasons. This enables companies to more effectively anticipate and estimate fluctuations in demand, enabling them to adjust their strategies accordingly.
- Inventory optimization: By understanding seasonal trends and sectoral patterns, companies can optimize their inventory levels to meet demand fluctuations more effectively. This reduces the risk of overstocking or running out of inventory while also minimizing inventory management costs.
- Optimize logistics planning. By understanding seasonal trends and sectoral patterns, companies can streamline their logistics planning. By optimizing transportation routes, reducing waiting times, and improving warehouse management, companies can streamline their supply chains and enhance efficiency. This provides a competitive advantage by enabling companies to respond quickly to market changes and offer tailored products and services.

4.12 ENERGY

In the energy sector, a key approach is to focus on two main areas: optimizing gas reservoir management and deploying wind-solar hybrid energy, supported by artificial intelligence. These projects are of significant importance for a number of reasons. Firstly, the objective is to diversify energy sources, reducing dependence on fossil fuels and strengthening energy resilience. Secondly, the use of AI to optimize energy production enables more efficient use of natural resources, while helping to reduce greenhouse gas emissions. Finally, these projects are part of a wider effort to modernize the country's energy infrastructure, promoting sustainable development and the adoption of innovative technologies.

Objective 4.12.1 Optimization of gas reservoir management

This project aims to significantly improve the management of gas reservoirs using AI-based solutions. The key benefits of this project include the following:

- First, the project will help minimize gas losses due to leaks, measurement errors, or improper procedures, through real-time monitoring and predictive analysis. This will result in significant financial savings and a more sustainable use of resources.
- Secondly, the advanced data analytics generated by AI will provide managers with valuable insights to make informed decisions regarding supply planning, preventive maintenance, and strategic adjustments based on market conditions.

Objective 4.12.2 Optimization of hybrid wind-solar energy production

This project aims to optimize the production of electrical energy from a hybrid system combining wind and solar energy using artificial intelligence techniques. The main objectives are as follows:

- **Predictive weather analysis:** Using machine learning models to predict local weather conditions, including wind speed and direction, sunlight, cloud cover, etc.
- **Optimize resource allocation:** Based on weather forecasts, automatically optimize production allocation between wind turbines and solar panels to maximize total energy production and profitability.
- **Intelligent storage management:** Integrate energy storage systems, such as batteries, and employ AI algorithms to manage energy distribution and store excess energy during peak production times, and use the stored energy during low production periods.

4.12 DEFENCE

This strategy places a high priority on integrating AI into the defense sector. This is evident in its proposed projects that focus on developing autonomous intelligence, surveillance, and reconnaissance (ISR) systems for surveillance and crime detection via digital media. This project represent a major advancement in enhancing the country's defense capabilities, with a focus on using the latest technologies to ensure national security.

The deployment of unmanned automated reconnaissance systems will facilitate advanced surveillance operations, enhancing response to emerging threats. The use of digital media crime detection technologies will also contribute to combating illegal activities and virtual threats. By integrating AI into these strategic areas, our country is positioning itself as a proactive in protecting its national interests and promoting sustainable regional security.

Objective 4.13.1 Development of autonomous ISR (Intelligence, Surveillance, and Reconnaissance) systems

This project will develop autonomous reconnaissance and surveillance systems, providing several strategic and operational advantages while ensuring full compliance with data protection and privacy laws due to the sensitive nature of the system.

- **Autonomous Reconnaissance and Surveillance System Design:** The project aims to design and implement autonomous reconnaissance and surveillance systems, using unmanned aerial vehicles (UAVs) or autonomous ground vehicles (AGVs) with advanced AI-based surveillance capabilities.
- **Real-time surveillance capabilities:** Real-time surveillance will be a key feature of the system. These systems will be deployed to gather real-time intelligence on enemy activities or conflict zones, enabling continuous and effective situational awareness.
- **Enhance reconnaissance capabilities:** The deployment of advanced AI-based reconnaissance technologies in autonomous systems will enable the identification and analysis of enemy activities with increasing accuracy, facilitating strategic decision-making.
- **Reduce personnel risk :** The project aims to reduce risk to personnel through the use of autonomous reconnaissance and surveillance systems, eliminating the need to expose soldiers to dangerous situations during reconnaissance and surveillance missions.
- **Improve military operations:** By providing real-time intelligence and enhanced reconnaissance, autonomous systems will improve military operations by providing accurate information for more effective mission planning and execution.

Objective 4.13.2 Criminal detection via internet

This project offers an innovative approach to identifying and locating perpetrators of online criminal content, while ensuring full compliance with data protection and privacy laws due to its highly sensitive nature.

- **Digital Media Content Analysis:** The project relies on digital media content analysis to identify criminal activity, including suspicious behaviors and criminal patterns in online postings.
- **Natural Language Processing:** The project uses advanced natural language processing techniques to analyze the text of messages and comments, enabling the detection of threats and illegal activities hidden in posts.
- **User Location:** The project uses geolocation methods to identify the source of criminal content, enabling the precise location of individuals involved in these activities.
- **Supporting competent authorities:** By providing accurate information on online criminal activities and the location of perpetrators, the project helps competent authorities to take appropriate action to combat digital crime.
- **Enhance prevention and security measures:** By quickly identifying threats and locating perpetrators, the project contributes to enhancing online prevention and security, thereby protecting digital media users and society as a whole.

THE NATIONAL ARTIFICIAL INTELLIGENCE STRATEGY OF MAURITANIA 2025-2029

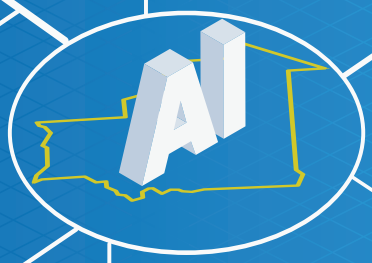
AI STRATEGY GOVERNANCE

COMMISSION

A sub-committee of the Supreme Council for Digitalization will be established to monitor activities related to the National AI Strategy. This sub-committee will operate under the guidelines set by the Supreme Council for Digitalization and will benefit from the support and expertise of the Technical Support Committee of the Supreme Council for Digitalization.

MISSIONS

This role entails monitoring the implementation of the strategy, coordinating stakeholders, proposing amendments, validating sectoral action plans, assessing progress and recommendations from government evaluations.



COMPOSITION

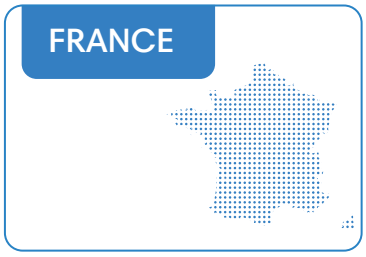
- A MISSION OFFICER FROM MTNIMA, MEMBER IN CHARGE OF THE SECRETARIAT, CHAIRMAN,
- TWO AI EXPERTISE RESOURCES FROM THE MINISTRY OF DIGITAL TRANSFORMATION, INNOVATION AND MODERNIZATION OF ADMINISTRATION
- A REPRESENTATIVE OF THE MINISTRY OF NATIONAL EDUCATION AND EDUCATION SYSTEM REFORM
- A REPRESENTATIVE OF THE MINISTRY OF PETROLEUM, MINING, AND ENERGY
- A REPRESENTATIVE OF THE MINISTRY OF HEALTH
- A REPRESENTATIVE OF THE MINISTRY OF EQUIPMENT AND TRANSPORTATION
- MEMBER REPRESENTING THE PRIVATE SECTOR
- MEMBER REPRESENTING THE PARLIAMENTARY GROUP ON RESEARCH AND INNOVATION
- A REPRESENTATIVE OF THE MINISTRY OF AGRICULTURE
- MEMBER REPRESENTING CIVIL SOCIETY
- A REPRESENTATIVE OF THE MINISTRY OF FISHERIES AND MARITIME ECONOMY
- A REPRESENTATIVE OF THE MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH

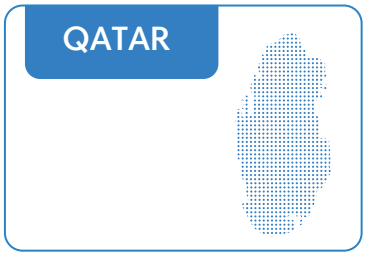
5 APPENDIX 1 : REFERENCES

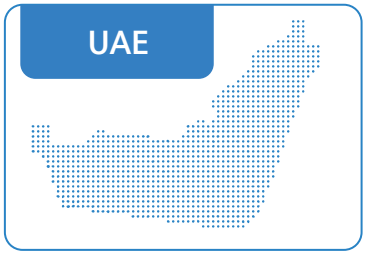
1. Centre européen pour le développement de la formation professionnelle (Cedefop) (no date). Available at: https://www.cedefop.europa.eu/hr/tools/vet-glossary/glossary/kunstmatige-intelligentie-ki.
2. Egypt National Artificial Intelligence Strategy (2021). Available at: https://andp.unescwa.org/.
3. Germany Artificial Intelligence Strategy (2018). Available at: https://www.ki-strategie-deutschland.de/.
4. National artificial intelligence strategy advancing our smart nation journey, (2019). Available at: https://www.smartnation.gov.sg/nais/.
5. Organisation for Economic Co-operation and Development. Available at: https://www.oecd.org/digital/artificial-intelligence/.
6. Stratégie nationale d'intelligence artificielle et des mégadonnées (SNIAM) 2027 (2023). Available at: https://numerique.gouv.bj/.
7. Türkiye National Artificial Intelligence Strategy (NAIS) 2021-2025 (2021). Available at: https://cbddo.gov.tr/.
8. UAE National Strategy for Artificial Intelligence 2031 (2018). Available at: https://ai.gov.ae/.
9. Villani, C., Bonnet, Y., Berthet, C., Levin, F., Schoenauer, M., Cornut, A. C., & Rondepierre, B. (2018) Donner un sens à l'intelligence artificielle: pour une stratégie nationale et européenne. Conseil national du numérique. Available at: https://www.enseignementsup-recherche.gouv.fr/fr/rapport-de-cedric-villani-donner-un-sens-l-intelligence-artificielle-ia-49194.
10. 2021)الأجندة العربية للتنمية الرقمية) Available at: https://ada.unescwa.org/.
11. Agenda national de Transformation Numérique 2022-2025 at https://mtnima.gov.mr/wp-content/uploads/2024/03/Agenda-Numerique-2022-25-MTNIMA.pdf
12. Stratégie nationale de sécurité numérique 2022-2025 at https://mtnima.gov.mr/wp-content/uploads/2024/05/Strategie_nationale_securite_numerique.pdf

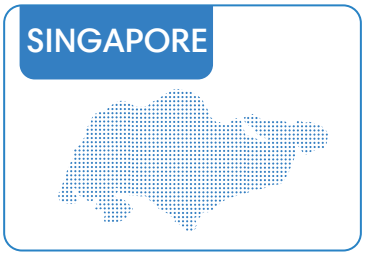
6 APPENDIX 2 : BENCHMARK OF 8 COUNTRIES

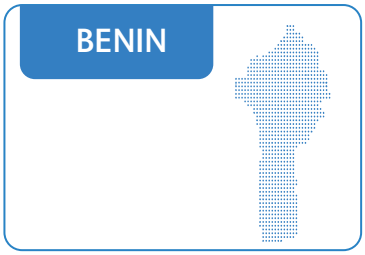
Benchmarking for the national artificial intelligence strategy of Mauritania with 8 countries





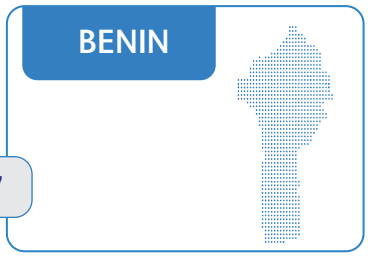






BENIN

NATIONAL ARTIFICIAL INTELLIGENCE AND BIG DATA STRATEGY 2023-2027



POPULATION	13. 35 MILLION
PIB (2022) / $ USD	17.4 MILLIARD
E-GOV (2021)	SCORE 0.43 149
GII (2021)	SCORE 16.01 120
GCI (2021)	SCORE 80.06 56
GOVERNMENT AI READINESS INDEX (2021)	SCORE 41.37 97

FORMULATION OF THE STRATEGIC FRAMEWORK

STRATEGIC ORIENTATION 1

INFRASTRUCTURE SERVICES AND DATA

Organization and consolidation of the existing embryonic ecosystem and valorization of its results

Strategic objective 1: Implement use cases and high-impact initiatives

- Carry out preliminary actions
- Implementation of AI solutions

STRATEGIC ORIENTATION 2

SPECIALIZED TRAINING

Development and increased support for the AI ecosystem

Strategic objective 2: Strengthen human capacities on AI and big data management

- Train in the field of AI and Data science
- Strengthening human capabilities on AI
- Strengthen human capacities on big data management

STRATEGIC ORIENTATION 3

RESEARCH, INNOVATION AND PARTNERSHIP

Promotion of the Beninese ecosystem, knowledge and know-how.

Strategic objective 3: Ensure better support for research, innovation, the private sector and cooperation in the field of AI

- Support training and research
- Develop sustainable funding mechanisms for research and innovation
- Strengthen sub-regional and international cooperation.

STRATEGIC ORIENTATION 4

GOVERNANCE

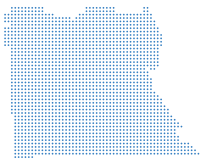
Development and increased support for the AI ecosystem

Strategic objective 4: Update the institutional and regulatory framework for AI and big data management

- Adopt a text governing AI in Benin
- Establish a controlled environment development of AI initiatives
- Define and deploy a big data management model.

EGYPT

EGYPT



EGYPT NATIONAL ARTIFICIAL INTELLIGENCE STRATEGY 2019-2030

POPULATION	111 MILLION
PIB (2022) / $ USD	476.7 MILLIARD
E-GOV (2021)	SCORE 0.59 — 103
GII (2021)	SCORE 24.22 — 86
GCI (2021)	SCORE 95.48 — 23
GOVERNMENT AI READINESS INDEX (2021)	SCORE 52.69 — 62

EGYPT AI STRATEGY PILLARS

The strategy consists of the following four pillars

AL FOR GOVERNMENT

The rapid adoption of AI technologies through the automation of government processes

AL FOR DEVELOPMENT

Apply AI in different economic sectors Priority sectors for phase 1 include:

- Agriculture/ Environment/ Water Management
- Healthcare
- Arabic Natural Language Processing (NLP)
- Economic Planning and Development
- Manufacturing and Smart Infrastructure Management.

CAPACITY BUILDING

Prepare the Egyptian population for the age of AI at all levels, from general awareness to school, university and equivalent education, to professional training for technical and

INTERNATIONAL ACTIVITIES

Play a key role in fostering cooperation on the regional and international

EGYPT AI STRATEGY PILLARS

Supporting the four pillars are the following four enablers

Governance

including ethics, laws and regulations, tracking and monitoring.

Data

including collection, management and monetization strategies

Ecosystem

including private sector, research and academia, and civil society.

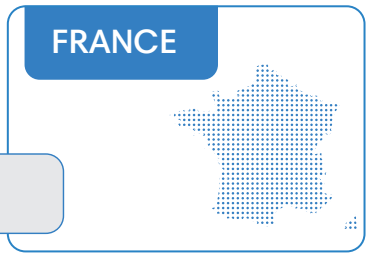
Infrastructure

including fair access to compute, storage, networking, and other assets

THE NATIONAL ARTIFICIAL INTELLIGENCE STRATEGY OF MAURITANIA 2025-2029

FRANCE

AI STRATEGY 2018-2025



POPULATION	67.97 MILLION
PIB (2022) / $ USD	2.779 BILLION
E-GOV (2021)	SCORE 0.88 — 19
GII (2021)	SCORE 56.02 — 11
GCI (2021)	SCORE 97.6 — 7
GOVERNMENT AI READINESS INDEX (2021)	SCORE 76.07 — 6

FRANCE AI STRATEGY PILLARS

The AI strategy of France, articulated around six pillars, covers various aspects such as economic policy, research, employment, ethics, and social cohesion.

DATA-DRIVEN ECONOMIC POLICY

- Adoption of Sector Platforms
- Data Governance Strategy
- European Industrial Dynamics in AI
- European infrastructures for AI

TOWARDS AN AGILE RESEARCH ENVIRONMENT

- Creation of 3IA Institutes
- Integration of AI into various research domains.
- Increase in AI Research Investments

CHALLENGES OF AI ON WORK AND EMPLOYMENT

- Seeking Complementarity between Human Work and AI
- Artificial Intelligence Training

AI FOR AN ECOLOGICAL ECONOMY

- Environmental Impacts of Digital Technology
- Promoting Research and Innovation

INCLUSIVE AND DIVERSE AI

- Support for Social Innovation in AI
- Promotion of Diversity and Inclusion
- Digital Mediation and Social Innovation

FOCUS

- Health
- Agriculture
- Transportation
- Defense and Security

FRANCE : EVALUATION AI STRATEGY

Phase 1
2018-2022

- 1.5 billion euros
- Focus on research

results 1

- AI Research
- Support for Innovation
- International Positioning

Phase 2
2021-2025

- 1.545 billion euros
- Strengthening International Collaborations
- Enhancement of AI Education and Research
- Management of Ethical and Societal Issues

THE NATIONAL ARTIFICIAL INTELLIGENCE STRATEGY OF MAURITANIA 2025-2029

GERMANY

ARTIFICIAL INTELLIGENCE STRATEGY 2019-2025

POPULATION	83.8 MILLION
PIB (2022) / $ USD	4.082 BILLION
E-GOV (2021)	SCORE 0.88 — 22
GII (2021)	SCORE 58.76 — 8
GCI (2021)	SCORE 97.41 — 13
GOVERNMENT AI READINESS INDEX (2021)	SCORE 75.26 — 8

GERMANY AI STRATEGY OBJECTIVES

The German federal government sets the following objectives, all of equal importance (1/2) :

RESEARCH

Strengthening research in Germany and Europe to be drivers of innovation

INNOVATION

Hold innovation competitions and European innovation clusters

STARTUP

Transfer to businesses, strengthening of the Mittelstand

FAVOR

Encourage the creation of new businesses and lead them to success

JOB

World of work and the job market: shaping structural change

TRAINING

Strengthen vocational training and attract qualified labor/experts

GERMANY AI STRATEGY OBJECTIVES

The German federal government sets the following objectives, all of equal importance (2/2) :

ADMINISTRATION

Use of AI for tasks reserved for the State and administrative tasks

SHARING

Make data available and facilitate their use

FRAME

Adapt the regulatory framework

STANDARD

Establish standards

COOPERATION

Networking nationally and internationally

DIALOGUE

Engage in dialogue with society and continue to develop the policy framework

GERMANY AI STRATEGY OBJECTIVES 2020 (UPDATE)

Priority Axes

- Strengthen national research structures
- European and international research cooperation
- Interdisciplinary research and sustainable use
- AI Research for Healthcare and Long-Term Care
- Research on AI for environmental and climate protection
- Making AI environmentally friendly
- Aerospace AI Research
- Research on AI for Mobility
- AI in agriculture

GERMANY AI STRATEGY AREAS 2020 (UPDATE)

Priority areas included

Healthcare : 22 projects

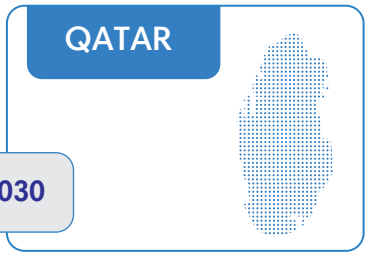
- Maximum 36 month
- Period 2020-2023
- Financing of around 50 million euros.
- Projects will investigate the benefits of Smart Sensors, Smart Data Use, Smart Decision Support Systems and Smart Communication in clinically relevant application scenarios.

Agriculture: 36 projects

- Financing of approximately 44 million euros.
- Announced in February 2020.
- The projects aim to develop solutions for Agriculture, Nutrition Health, the Food Chain and Rural

QATAR

NATIONAL ARTIFICIAL INTELLIGENCE STRATEGY FOR QATAR 2019-2030



POPULATION	2.695 MILLION
PIB (2022) / $ USD	236.3 MILLIARD
E-GOV (2021)	SCORE 0.71 — 78
GII (2021)	SCORE 33.37 — 50
GCI (2021)	SCORE 94.5 — 27
GOVERNMENT AI READINESS INDEX (2021)	SCORE 63.59 — 34

QATAR AI STRATEGY PILLARS

The National AI strategy of Qatar has six pillars: education, data access, employment, business, research, and ethics.

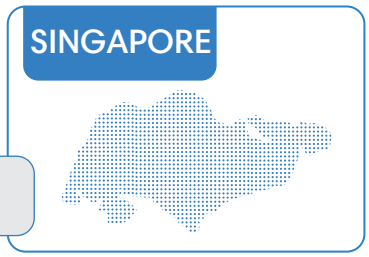
- Race for Talent in the AI Era
- Data Access is Paramount
- The Changing Landscape of Employment
- New Business and Economic Opportunities
- Qatar – AI Focus Areas
- Ethics and public policy

QATAR AI STRATEGY FOCUS

Qatar – AI Focus Areas

Arabic Language Processing	Applications in education, media, security, and other areas of strategic importance
National Security	Infer cyber security threats to the nation
Precision Medicine and Systems Biology	Transforming healthcare through personalized medicine using Qatar's unique genomic data for medical innovation.
Transportation and FIFA World Cup 2022	Establish an AI-powered infrastructure helping in management of the logistical challenges and improve the experience for fans in the stadium and spectators at home.
Food Security	Using AI-driven precision agriculture for Qatar's food security amidst climate change, necessitating customized solutions and contingency plans.
Oil and Gas	Create niche AI-products in the oil and gas sector

SINGAPORE



NATIONAL ARTIFICIAL INTELLIGENCE STRATEGY ADVANCING OUR SMART NATION JOURNEY, 2019-2023

POPULATION	5.637 MILLION
PIB (2022) / $ USD	466.8 MILLIARD
E-GOV (2021)	SCORE 0.91 — 12
GII (2021)	SCORE 61.47 — 5
GCI (2021)	SCORE 98.52 — 4
GOVERNMENT AI READINESS INDEX (2021)	SCORE 81.97 — 2

SINGAPORE NATIONAL AI PROJECTS

Intelligent Freight Planning : to optimise the movement of freight to improve productivity for businesses and traffic efficiency.

Seamless and Efficient Municipal Services: to make municipal services more responsive, reliable and timely.

Chronic Disease Prediction and Management : to help prevent and better manage chronic diseases.

Personalised Education through Adaptive Learning and Assessment: to help teachers to bettern customise and improve the learning experience for every student.

Border Clearance Operations : to strengthen border security while improving traveller experience.

SINGAPORE: BUILDING THE AI ECOSYSTEM

TRIPLE HELIX (PARTNERSHIP) BETWEEN THE RESEARCH COMMUNITY, INDUSTRY AND GOVERNMENT.

Key Thrust 1.1 Deepen investments in AI-related R&D across the research ecosystem
Key Thrust 1.2 Drive partnerships between the research community and industry
Key Thrust 1.3 Accelerate AI adoption in companies
Key Thrust 1.4 Establish AI innovation testbeds

AI (TALENT AND EDUCATION) ADDRESS THE SHORTFALL IN THE QUANTITY AND QUALITY OF TALENT ACROSS THE ENTIRE RANGE OF AI-RELATED JOB ROLES

Key Thrust 2.1 Train more Singaporeans for high-quality AI jobs
Key Thrust 2.2 Teach basic computing skills and computational thinking to all
Key Thrust 2.3 Attract top-tier global AI talent

ENABLE QUICK AND SECURE ACCESS TO HIGH-QUALITY, CROSS-SECTORAL DATASETS.

Key Thrust 2.1 Establish frameworks for public-private data collaboration
Key Thrust 3.2 Establish trusted data intermediaries for public-private data exchange

STRENGTHEN TRUST IN AI TECHNOLOGIES TO ENABLE AN ENVIRONMENT FOR TEST-BEDDING, DEVELOPING, AND DEPLOYING AI SOLUTIONS.

Key Thrust 4.1 Establish citizens' trust on the responsible use of AI
Key Thrust 4.2 Provide a top-class IP regime and accelerated patent initiatives for AI

WORK WITH INTERNATIONAL PARTNERS TO SHAPE THE INTERNATIONAL AI DISCOURSE AND DEVELOP THE OTHER HORIZONTAL ENABLERS.

Key Thrust 5.1 Contribute to global standards for AI-related policies and guidelines
Key Thrust 5.2 Collaborate on multi-national AI project

TURKEY

NATIONAL ARTIFICIAL INTELLIGENCE STRATEGY 2021-2025

TURKEY

POPULATION	84.98 MILLION	
PIB (2022) / $ USD	907.1 MILLIARD	
E-GOV (2021)	SCORE 0.8	48
GII (2021)	SCORE 38.61	39
GCI (2021)	SCORE 97.5	10
GOVERNMENT AI READINESS INDEX (2021)	SCORE 60.51	47

TURKEY AI STRATEGY PRIORITIES

The National Artificial Intelligence Strategy (NAIS) was designed around 6 strategic priorities in line with both national policies and needs along with the AI strategy recommendations of international organizations

TRAINING AI EXPERTS AND INCREASING EMPLOYMENT IN THE DOMAIN

Objective 1.1. Boost AI expert employment per sectoral demands.
Objective 1.2. Enhance university AI capacities and launch new programs.
Objective 1.3. Increase both the quantity and quality of AI students at all levels.
Objective 1.4. Offer pre-university students AI-related training tailored to their skills and interests.

TRAINING AI EXPERTS AND INCREASING EMPLOYMENT IN THE DOMAIN

Objective 2.1. Enhance public support for AI development and implement monitoring systems.
Objective 2.2. Increase both the quantity and quality of original AI initiatives.
Objective 2.3. Establish and expand AI-focused venture capital funds.
Objective 2.4. Create clusters and centers of excellence for advanced AI R&D and innovation

FACILITATING ACCESS TO QUALITY DATA AND TECHNICAL INFRASTRUCTURE

Objective 3.1. Provide shared access to high-performance computing for AI research.
Objective 3.2. Set up a data governance system for AI and analytics.
Objective 3.3. Develop and share open-source AI software and algorithms.
Objective 3.4. Expand open data sharing.

REGULATING TO ACCELERATE SOCIO ECONOMIC ADAPTATION

Objective 4.1. Implement agile legal harmonization for testing ethical scenarios.
Objective 4.2. Establish governance for fairness, privacy, and ethics in AI.
Objective 4.3. Enhance research on AI's socioeconomic impacts.
Objective 4.4. Improve data capacity for evaluating AI's effects.

STRENGTHENING INTERNATIONAL COOPERATION

Objective 5.1. Ensure active participation in global data governance and trustworthy AI initiatives.
Objective 5.2. Engage in cross-border projects, prioritizing the EU's multi-annual financial frameworks.
Objective 5.3. Conduct joint projects and collaborations with leading international organizations and strategic countries.

ACCELERATING STRUCTURAL AND LABOR TRANSFORMATION

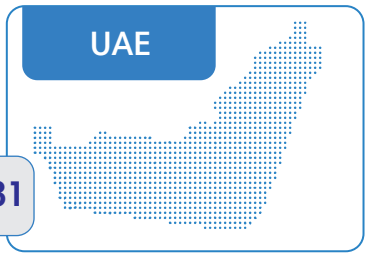
Objective 6.1. Build a public AI ecosystem and infrastructure for faster analytics in public sectors.
Objective 6.2. Speed up AI adoption transformations in public institutions.
Objective 6.3. Restructure TÜBITAK AI Institute to accelerate AI ecosystem development.
Objective 6.4. Promote sector-specific AI applications and experience sharing.
Objective 6.5. Develop training and certification for new professions with sectoral collaboration.

TURKEY AI STRATEGY

Within the framework of these strategic priorities, 24 objectives and 119 measures were formulated.
the NAIS aims to achieve several targets:

- A contribution of 5% of GDP (Gross Domestic Product) from AI
- An increase in employment in the field of AI
- An increase in the number of AI graduates
- Active participation in international regulatory studies in the field of AI.

UNITED ARAB EMIRATES



UAE NATIONAL STRATEGY FOR ARTIFICIAL INTELLIGENCE 2031

POPULATION	9.441 MILLION
PIB (2022) / $ USD	507.1 MILLIARD
E-GOV (2021)	SCORE 0.9 — 13
GII (2021)	SCORE 43.22 — 32
GCI (2021)	SCORE 98.06 — 5
GOVERNMENT AI READINESS INDEX (2021)	SCORE 70.42 — 18

UAE AI STRATEGY OBJECTIVES

There are eight strategic objectives outlined in the AI Strategy, namely

- BUILD A REPUTATION AS AN AI DESTINATION.
- INCREASE THE UAE COMPETITIVE ASSETS IN PRIORITY SECTORS THROUGH DEPLOYMENT OF AI.
- DEVELOP A FERTILE ECOSYSTEM FOR AI.
- ADOPT AI ACROSS CUSTOMER SERVICES TO IMPROVE LIVES AND GOVERNMENT.
- ATTRACT AND TRAIN TALENT FOR FUTURE JOB SENABLED BY AI.
- BRING WORLD-LEADING RESEARCH CAPABILITY TO WORK WITH TARGET INDUSTRIES.
- PROVIDE THE DATA AND SUPPORTING INFRASTRUCTURE ESSENTIAL TO BECOME A TEST BED FOR AI.
- ENSURE STRONG GOVERNANCE AND EFFECTIVE REGULATION.

UAE AI STRATEGY SECTORS

The current priority sectors are:

RESOURCES & ENERGY

LOGISTICS & TRANSPORT

TOURISM & HOSPITALITY

Find the electronic version of NAISM on https://mtnima.gov.mr/wp-content/uploads/2024/04/Mauritani-AI-Strategy-Draft-April-2024_.pdf

If you have any questions or suggestions, please contact us at Cellule_IA@mtnima.gov.mr

THE NATIONAL
ARTIFICIAL INTELLIGENCE
STRATEGY OF MAURITANIA
2025-2029