رؤية عُمان 2040
نتقدم بثقة
Moving Forward with Confidence

NATIONAL PROGRAM
FOR ARTIFICAL INTELLIGENCE
AND ADVANCED DIGITAL TECHNOLOGIE

ANNUAL REPORT

National Program for AI and Advanced Digital Technologies

2024

سلطنة عُمان
وزارة النقل والاتصالات وتقنية المعلومات
Sultanate of Oman
Ministry of Transport, Communications and Information Technology

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Introduction

The Ministry of Transport, Communications and Information Technology (MTCIT) plays a key role in implementing a range of executive programs as part of the National Program for Digital Economy, with artificial intelligence being one of its most significant components. The aim is to promote the adoption of AI across economic and developmental sectors, while also localizing AI technologies and ensuring their governance with a human-centered approach. Additionally, the Ministry focuses on building strategic partnerships with local and international entities to exchange knowledge and expertise, thereby fostering innovation and advancing developmental goals.

During 2024, the National Program for AI and Advanced Digital Technologies achieved several key milestones that contributed to advancing digital transformation in the Sultanate of Oman. This report presents the main outcomes of the program over the past year.

Key Achievements

Approval of the National Program for AI and Advanced Digital Technologies

The Council of Ministers has approved the National Program for AI and Advanced Digital Technologies on September 19, 2024. The program is built upon three main pillars:

1. Promoting and adopting AI in the economic and developmental sectors.
2. Localization of AI technologies.
3. Governance of AI with a human-centered vision.

The National Program for AI and Advanced Digital Technologies Document

"Engineer it with AI" Competition

In response to one of the pillars of the National Program for AI and Advanced Digital Technologies, MTCIT organized "Engineer it with AI" competition. The competition spanned two months and was accompanied by a series of capacity-building activities, including workshops, training camps, and mentoring sessions. It involved the participation of 100 individuals divided into 25 teams. During the competition, AI-generated solutions and applications were developed.

Eight applications qualified as final outputs from the competition and were published across various digital marketplaces, available for download as fully developed products. Three teams won the top positions:

- Team “Embedded Stars” – An innovative educational platform enhanced with generative AI.
- Team “AI Hire” – A smart recruitment platform that utilizes AI to generate and analyze résumés.
- Team “Omniware” – A solution that improves the accuracy and speed of fracture diagnosis in X-ray images using generative AI.

The National Open Data Portal

The Ministry of Transport, Communications and Information Technology is working on developing the National Open Data Portal with the aim of enabling the public to access government open data easily and transparently, while also promoting innovation and community engagement. The "Open Data Policy," issued in June 2020, mandates all government entities to publish their data in reusable formats.

Key Features of the Portal:

- Provides access to and downloading of open datasets from various government entities.
- Enables individuals and researchers to request unavailable data for the development of applications or studies.

Open Data Forum

As part of its awareness-raising efforts, MTCIT organized a forum attended by 160 representatives from 56 government entities. The event aimed to promote knowledge exchange on open data and showcase successful models from entities that have published their datasets.

Achieved Objectives:

- Raised awareness of the concept of open data.
- Introduced the National Open Data Portal.
- Shared experiences and success stories from other entities.

Key Outcomes:

- Recognition of 11 leading government entities for their efforts in data publication.
- Exchange of expertise and enhanced understanding of open data-related policies.

Public Engagement on the Draft National AI Policy

As a step toward enhancing community engagement and participation in shaping AI policies in Oman, MTCIT invited all individuals, experts, academics, decision-makers, and stakeholders to share their views and suggestions on various aspects of the policy through the digital participation page available on MTCIT website.

Oman's Ranking in the Government AI Readiness Index

Oman Advances 5 Positions in the Government AI Readiness Index in 2024

Pilot Projects in Collaboration with Other Entities

The Ministry of Transport, Communications and Information Technology has implemented a number of pilot projects to test AI solutions and technologies in controlled environments before broader deployment. These pilots aim to evaluate concepts, support innovation, reduce risks, and gather user feedback. They also contribute to expanding technical knowledge and assessing the readiness of partners to develop future AI-enhanced projects.

Key Pilot Projects Implemented:

- **Agricultural Statistics with AI:** Satellite image analysis for tree counting, achieving 90% accuracy – in collaboration with Lens of Oman.
- **Smart Urban Planning:** Development of an AI-based prototype for land management and digital transformation – in collaboration with the Ministry of Housing and Civilization Company.
- **Facial Recognition System:** In collaboration with SCYLLA, a field trial was conducted at the customer service hall of MTCIT. The trial included three distinct AI use cases, each serving a specific objective:
  - **Identifying High-Congestion Areas:** AI technology was used to monitor and analyze the distribution of people within the hall to pinpoint areas with the highest density.
  - **Visitor Counting:** Facial recognition was employed to accurately count the number of visitors, providing reliable data for analyzing daily footfall, identifying peak times, and supporting decision-making.
  - **Visitor Behavior Analysis:** Movement patterns and behaviors of visitors were analyzed to understand their navigation paths and interaction points, helping to enhance user experience and improve service delivery.

- **Air Quality Monitoring:** Smart environmental analysis using IoT sensors – in collaboration with the Ministry of Energy and Minerals and Siemens.
- **Smart Quantity Scanner:** Estimation of mineral quantities using LiDAR and AI – in collaboration with Siemens and the Ministry of Energy and Minerals.
- **Aerial Drone Survey:** Image analysis to identify terrain in mining areas – in collaboration with the Ministry of Energy and Minerals and Siemens.
- **Vehicle Monitoring and Tracking:** An intelligent system to enhance road safety and monitor truck weights – in collaboration with the Transport Sector at MTCIT and several companies.
- **Smart Fish Farms:** Automation of biomass measurement and monitoring of fish behavior – in collaboration with the Ministry of Agriculture, Fisheries and Water Resources and Sultan Qaboos University.
- **Food Quality:** Application of a system to detect adulterated food products, using rice as a pilot model to validate the effectiveness of the technology.
- **Warehouse Environment Monitoring:** Deployment of IoT sensors to track temperature and humidity levels in food storage facilities, ensuring the preservation of products in compliance with quality standards.

Strategic Research Program

The Ministry of Higher Education, Research and Innovation, in collaboration with MTCIT, launched the Strategic Research Program in the Communications and Information Technology Sector (Artificial Intelligence) to support research aligned with national priorities.

Among 32 research proposals, a project titled “Maximizing Benefits and Minimizing Risks Associated with the Use of Generative AI in Education”, submitted by the National University of Science and Technology, was selected and awarded joint funding of OMR 88,100.

The project has made significant progress, including the development of intelligent models and the analysis of extensive educational data. It aims to establish a national framework for evaluating the impact of AI in education, in support of the country’s innovation and digital transformation agenda.

Ongoing AI Projects:

"Oman GPT" Project:

Under the Royal Directives, MTCIT is implementing a national project to develop a large-scale Omani language model named "Oman GPT", aimed at enhancing the efficiency of government entities through generative AI technologies.

The model is based on accurate Omani data that reflects the national identity and culture, and it is being developed in collaboration with local partners.

The model is expected to offer intelligent services such as text generation, document summarization, and question answering—contributing to digital sovereignty and enabling institutions to safely harness the power of AI technologies.

"Oman AI Studio" Project:

An AI center that bridges the gap between AI enthusiasts, innovators, and market needs, while also contributing to Oman’s GDP through AI-driven innovations and the localization of AI-enhanced applications across various economic sectors.

AI Economics Initiative:

MTCIT, in collaboration with Ministry of Economy, seeks to accelerate the integration of artificial intelligence across various economic sectors through "AI Economics" initiative, aiming to support economic diversification, build national capabilities, and achieve the goals of Oman Vision 2040.

A number of innovative government projects have been approved under the initiative, most notably:

- **National Center for Virtual Health:** Providing remote specialized healthcare services using artificial intelligence technologies.
- **Geological Data Analysis:** Enhancing the accuracy of discovering oil, gas, minerals, and renewable energy sites.
- **Environmental Information Bank:** Integrating AI with blockchain technologies to create an intelligent system for managing and analyzing environmental data.
- **Ain Media Platform:** Enhancing the quality of media services provided to users.
- **Investment Data Dashboard:** An interactive platform for analyzing investment data using artificial intelligence.
- **Smart Gates in Dhofar:** Improving the management of tourism and traffic flow by monitoring vehicle counts, traffic congestion levels, and the number of tourists.
- **Smart Administration:** Accelerating administrative procedures and improving service quality through AI technologies.
- **Training Workshop Management:** Automating content organization and analyzing the effectiveness of programs using AI technologies.
- **Support Program for Promising Omani Companies:** Providing the necessary financial support in collaboration with the Promising Omani Startups Program to support startups specializing in AI.

Partnerships and Collaborations

As part of the Ministry of Transport, Communications and Information Technology's efforts to implement the initiatives of the National Program for Artificial Intelligence and Advanced Technologies, several initiatives have been launched to strengthen governance and innovation in the field of artificial intelligence.

ICESCO Chair for AI Ethics

The University of Technology and Applied Sciences signed an agreement with ICESCO to host a research chair focused on Artificial Intelligence Ethics, with the aim of promoting scientific research in this vital field.
The establishment of this chair builds upon the Memorandum of Cooperation signed between MTCIT and the University to foster research and innovation in artificial intelligence and advanced digital technologies.

"AI Makers" Initiative

MTCIT, in collaboration with the University of Technology and Applied Sciences, launched the "AI Makers" initiative to support research and development in artificial intelligence.

Oman AI Summit – January 2024

The summit brought together over 200 experts and 40 speakers from around the world. It aimed to attract foreign investments and promote AI investment opportunities within the Sultanate.

Oman Generative AI Conference – October 2024

This conference focused on the latest generative AI technologies and their impact on various sectors. It also featured a tech exhibition and specialized workshops.

Fourth Industrial Revolution Center

As part of MTCIT efforts—and with the support of the Ministry of Economy—a cooperation agreement was signed with the World Economic Forum to establish a Center for the Fourth Industrial Revolution in the Sultanate of Oman. The center aims to localize artificial intelligence technologies and leverage global expertise to develop advanced technological innovations and projects.
This will be the sixth such center in the Middle East and the 22nd globally.

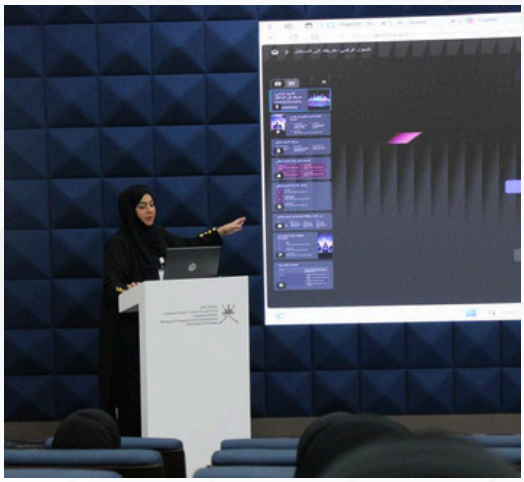
AI Training and Capacity Building

As part of MTCIT efforts to empower national talent and keep pace with digital transformation, specialized training programs have been implemented to enhance the capabilities of employees and educational institutions in utilizing AI tools and technologies.

Training for MTCIT Employees:

The National Program for Artificial Intelligence and Advanced Technologies team conducted a series of awareness workshops for MTCIT employees, covering tools such as: ChatGPT-4, Copilot, Gemini, ChatPDF, Katteb, ElevenLabs

Number of Participants: 450 employees



Key Outcomes:

- Increased awareness and understanding of artificial intelligence
- Accelerated task completion and improved work quality
- Application of acquired skills in daily work activities

Awareness Workshops for Career Guidance Specialists:

In collaboration with the Ministry of Education, the workshop titled “Artificial Intelligence, Emerging Technologies, and Future Trends” was organized across all governorates of the Sultanate of Oman. It aimed to enhance the understanding of future technology trends among career guidance specialists.

Number of Participants: 862 specialists

Achieved Impact:

- Anticipating future job trends in the technology sector
- Supporting students in selecting majors aligned with emerging technologies
- Enhancing the readiness of educational staff to adapt to evolving future skills

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