ARTIFICIAL INTELLIGENCE POLICY

Artificial Intelligence Coordination Group

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Introduction

This policy document has been prepared to establish the basic framework for embedding a data-driven decision-making culture, increasing operational efficiency, and strengthening scientific research capacity by making high-level use of artificial intelligence (AI) technologies in the institutional processes of the Scientific and Technological Research Council of Türkiye (TÜBİTAK). The ultimate goal of the policy is to transform TÜBİTAK into a pioneering institution that internalizes AI, can use this technology efficiently, and can effectively utilize AI as a tool in R&D and innovation processes. This policy document covers all functions of TÜBİTAK Presidency, centers, and institutes, including project management, administrative operations, financial processes, human resources management, and R&D and innovation activities. Designed in line with Türkiye's national goals and strategy documents summarized below, this policy document positions the institutional AI policy as a necessity rather than a preference. This increases the policy's applicability in resource allocation and change management processes within the institution.

- **National Technology Initiative Vision:** The policy is a corporate-level reflection of the National Technology Initiative vision, which serves Türkiye's goals of technological independence and global competitiveness [1]. TÜBİTAK's integration of AI into its own processes is a requirement of its vision to be "the institution leading Türkiye's national technology initiative."
- **National Artificial Intelligence Strategy (NAIS) 2021-2025:** The policy document provides an institutional policy framework for the concrete implementation within TÜBİTAK of the NAIAS's strategic priorities, such as "Expanding Access to Quality Data and Technical Infrastructure" and "Training AI Experts and Increasing Employment in the Field" [2].
- **Twelfth Development Plan and 2030 Industry and Technology Strategy:** The goals of digital transformation, high value-added production, increased efficiency, and innovation-focused ecosystems [1] [2] [3], emphasized in the higher-level policy documents, form the basis of this document.
- **TÜBİTAK 2024-2028 Strategic Plan:** Policy, directly under the heading *"Objective 4: Strengthening institutional capacity with a sustainable governance model and operational efficiency"* in the TÜBİTAK Strategic Plan, is designed to serve the *"Target 4.1: Operational efficiency will be increased through streamlining, sharing, and digitization in* line with

process-based improvements." It is designed to serve as a bridge between macro goals and micro applications, aiming to establish TÜBİTAK's AI transformation within a strategic framework .

1. Fundamental Principles

These principles, which form the ethical and strategic framework of TÜBİTAK's approach to AI and are detailed below, are binding for all AI applications to be developed or used within the Institution.

1.1. Human-Centeredness and Commitment to Ethical Values

Artificial intelligence systems are seen as a tool to support and enhance human intelligence and capabilities, not to replace them. All applications adhere to universal ethical principles such as transparency, explainability, fairness, non-discrimination, and accountability. **Human oversight and final approval are fundamental in decision-making processes.**

1.2. Strategic Autonomy and Efficiency Balance

Developing local and national competencies is fundamental in the development and procurement of AI solutions. However, in areas where quick results are needed, efficiency can be achieved by leveraging globally recognized best practices and ready-made solutions. The mission of contributing to Türkiye's technological independence requires, on the one hand, an approach to developing local competencies in critical AI areas (e.g., national security-related projects, Turkish language models); on the other hand, the obligation to use resources efficiently as a public institution requires an approach that embraces proven and cost-effective solutions in standard administrative processes (e.g., document management, request tracking).

1.3. Data-Driven Management and Development Culture

Data is recognized as one of the Institution's most valuable strategic assets. Decision-making processes, policy development, resource allocation, and performance measurement are supported by analytical models based on verified and high-quality data. Along with improving data quality at every level of the Institution, a culture of data-driven decision-making, thinking, and management is encouraged.

1.4. Reliability, Security, and Privacy

All AI systems developed or used within the institution are intended to be secure, resilient, sustainable and compliant with the necessary cybersecurity standards. Full compliance with all legislation related to data privacy and the protection of corporate confidentiality is a priority. The collection, storage, and processing of personal data within an ethical and legal framework is considered a fundamental concern.

1.5. Agile and Results-Oriented Approach

Considering the rapid development of AI technologies, policies and practices are managed with a dynamic approach. This encourages experimentation with pilot projects, rapid learning processes, and the swift adaptation of successful models across the Organization.

1.6. Legislation and Compliance

All artificial intelligence systems and applications developed, procured, or used within the Institution must comply with applicable national and international legislation, regulations, and standards. In this context, all legal obligations regarding data privacy, primarily the Constitution and the Personal Data Protection Law No. 6698 (KVKK), are strictly adhered to, and all AI processes involving the processing of personal data are designed and monitored in accordance with these regulations. At the same time, the ISO/IEC 42001 (Artificial Intelligence Management System) standard is used as a reference for the responsible management of AI systems, the assessment of their risks, and the assurance of accountability. The requirements of the ISO/IEC 27001 (Information Security Management System) standard are taken as a basis to ensure the security and integrity of the information assets on which these systems rely. This ensures that TÜBİTAK's activities in the field of AI are carried out on a solid foundation, not only technologically but also legally and ethically.

2. Policy Areas

This section defines how the fundamental principles will be implemented in the Institution's functional areas. The table below summarizes the strategic framework for each policy area.

Policy Area	Objective	Basis
Data Governance and Management of Data as a Strategic Asset	To establish a robust, high-quality, and accessible data foundation for AI applications.	UYZS: Access to Quality Data [2]
Optimizing Operational Processes with AI	Increasing efficiency in administrative and support processes, reducing costs, and directing personnel to value-added work.	TÜBİTAK SP 2024-2028: Target 4.1 (Operational Efficiency) [3], OECD Governing with Artificial Intelligence [4]
Accelerating R&D and Innovation Processes	Using AI as an enabling tool to shorten the innovation cycle and increase scientific impact.	2030 Industry and Technology Strategy: High Technology [1]
Corporate Competence and Talent Management	Establishing and ensuring the sustainability of the institution's human resource capacity to effectively use and develop AI.	UYZS: Training AI Experts [2]
Technology Infrastructure	Providing the computing and storage infrastructure necessary for modern AI applications.	UYZS: Technical Infrastructure [2]

2.1. Data Governance and Management of Data as a Strategic Asset

High-quality, accessible, and standardized data is crucial for the success of AI initiatives. The goal is to subject all data within TÜBİTAK (support programs, administrative and financial processes, R&D and innovation processes, human resources processes, etc.) to a standardized, centralized governance framework. The elimination of data silos and the continuous monitoring and improvement of data quality are taken into consideration.

2.2. Optimization of Operational Processes with AI

AI-based automation and decision support systems are adopted to increase efficiency, reduce human error, and optimize resource utilization in all repetitive and rule-based corporate processes, such as administrative, financial, human resources, procurement, and support services. Thus, progress towards the efficiency target in the TÜBİTAK Strategic Plan [3] is planned. The goal is to redirect employees from routine and repetitive tasks to more strategic and value-added tasks.

2.3. Accelerating R&D and Innovation Processes with AI

AI is positioned as a catalyst that will accelerate scientific and technological development processes in R&D and innovation activities carried out by TÜBİTAK. The use of AI tools is encouraged and supported in processes such as big data analysis, complex system modeling, hypothesis development, experiment design, and interpretation of results. This approach transforms AI from an information technology tool into a fundamental scientific instrument and directly positively impacts one of TÜBİTAK's main missions: the production of knowledge and technology.

2.4. Institutional Competence and Talent Management

Technology alone is not sufficient; the human resources that will use and develop it are of critical importance. In this regard, the goal is for all TÜBİTAK personnel to reach a basic level of AI literacy, and for researchers and technical personnel to gain advanced AI competencies through the creation of programs. Efforts are made to increase the quality and quantity of employment in the field of AI and to attract talented experts in AI to the Institution. In addition, activities aimed at sharing experiences for successful applications are encouraged.

2.5. Technology Infrastructure and Ecosystem Management

Training and using large-scale AI models requires a high amount of computing power. To meet this need, efforts are made to increase access to a scalable and secure High Performance Computing (HPC) and data storage infrastructure that meets TÜBİTAK's operational needs. Furthermore, to prevent resource waste and ensure the dissemination of knowledge within the Institution, the creation of an internal ecosystem where common AI platforms, toolkits, models, and necessary alerts are shared is encouraged.

3. Implementation, Monitoring, and Governance

To effectively implement this policy, an Artificial Intelligence Coordination Group has been established, responsible for coordinating AI activities within the Institution and determining strategic priorities. This Group serves as a strategic team involving all units of the Institution. The Group brings together all stakeholders, from R&D to human resources, finance, and legal, to ensure ownership and coordination across the Organization, prioritizing resources, setting

standards, quickly resolving emerging issues, and working to effectively implement the policy . The Group monitors and documents progress in corporate policy areas (using methods such as model life cycles, artificial intelligence impact assessment, success metrics and audit success metrics, IS0 42001 internal audit periods, etc.). In addition, it ensures interdepartmental coordination and continuous communication through the Department Representatives Group, which consists of representatives from relevant departments.

4. Conclusion

This policy document outlines the fundamental strategic framework that enables TÜBİTAK to increase operational efficiency and strengthen its scientific research capacity by integrating artificial intelligence technologies into all its institutional processes. Prepared in full alignment with the National Technology Initiative vision and the National Artificial Intelligence Strategy objectives, the text positions digital transformation as a necessity rather than an institutional preference. The institution defines technology as a tool that enhances human intelligence rather than replacing it, based on human-centeredness, commitment to ethical values, and transparency in artificial intelligence applications. In line with the principle of strategic autonomy, the aim is to develop local competencies in critical areas, while balancing resource efficiency by utilizing global solutions in standard processes. With the awareness that data is the most valuable asset, the goal is to establish a centralized data governance culture where management processes are based on analytics. Thanks to the artificial intelligence-supported automation of operational processes, administrative burdens can be reduced and human resources can be focused on more strategic, value-added scientific activities. By using artificial intelligence as an accelerator in R&D and innovation activities, it is planned to shorten stages such as hypothesis development and data analysis and increase the impact of scientific outputs. To ensure the success of this transformation, investments in improving staff competencies and establishing a scalable, secure, high-performance computing infrastructure are prioritized. All processes are conducted in a manner that is compliant with relevant laws and standards, secure, respectful of privacy, and accountable, thereby ensuring corporate reliability. Ultimately, this policy positions TÜBİTAK as a pioneering institution that not only uses technology but also guides it.

Sources

[1] 2030 Industry and Technology Strategy, Access Date: March 2, 2026, https://www.sanayi.gov.tr/assets/pdf/plan-program/2030SanayiveTeknolojiStratejisi.pdf

[2] National Artificial Intelligence Strategy 2021-2025, Access Date: March 2, 2026, https://bilgem.tubitak.gov.tr/wp-content/uploads/sites/8/TR-UlusalYZStratejisi2021-2025-1.pdf

[3] TÜBİTAK 2024-2028 Strategic Plan, Access Date: March 3, 2026, https://tubitak.gov.tr/sites/default/files/2024-10/tubitak_2024-2028_stratejik_plani_1.pdf

[4] OECD (2025), Governing with Artificial Intelligence: The State of Play and Way Forward in Core Government Functions, OECD Publishing, Paris, Access Date: March 3, 2026, https://doi.org/10.1787/795de142-en.