Regulations for the Promotion of the Development of the Artificial Intelligence Industry in Shanghai Municipality

(Adopted at the 44th meeting of the Standing Committee of the 15th Shanghai Municipal People's Congress on September 22, 2022)

Chapter I   General Provisions

Article 1   This Regulation was formulated in accordance with relevant laws and administrative regulations and based on the actual situation of the municipality in order to promote the high-quality development of the artificial intelligence (AI) industry and

strengthen the functions of new generation AI science and technology (S&T) innovation sources, promote the deep integration of AI with the economy, everyday life, urban governance, and other fields, and create a world-class AI industrial cluster.

Article 2   As used in this Regulation, artificial intelligence refers to the system of theories, methods, technologies, and applications that uses computers and computer-controlled machines to simulate, extend, and expand human intelligence, perceive the environment, acquire knowledge, and use knowledge to achieve optimal results.

The AI industry refers to industries that perform software and hardware product development and production, system applications, and service integration involved in the research, development, and application of AI technology, such as the key basic components industry, intelligent software industry, and smart terminal industry, as well as related industries driven by the integration and application of AI technology in fields such as the economy, everyday life, and urban governance.

Article 3   This Regulation applies to activities such as AI S&T innovation, industrial development, application empowerment, and industrial governance within the administrative region of this municipality.

Article 4   The development of the AI industry in this municipality should persist in the principles of being people-centered (以人为本), using S&T for the common good, being innovation-driven, and being market-led. It should build an AI industrial system with open ecosystem integration, active innovation clusters, ubiquitous super scenarios (超级场景), agile governance and security and create a "Shanghai bastion" of AI with international influence.

Article 5   The Municipal People's Government shall strengthen its leadership over the development of the municipality's AI industry, organize the formulation of AI industry development plans and incorporate them into national economic and social development plans, and guide and coordinate the resolution of major issues in AI S&T innovation, industry cultivation, application scenario construction, and industrial ecosystem construction.

The district people's governments shall, in accordance with the overall requirements and deployments of the municipality, do a good job in the development of the AI industry in their administrative areas and strengthen the application and promotion of AI scenarios and the construction of the industrial ecosystem.

Township people's governments and sub-district offices shall strengthen AI S&T applications and improve the level of smartification (智慧化) of grassroots services and governance.

Article 6　The municipal economic and informatization departments (经济和信息化部门) are the main oversight departments (主管部门) for the AI industry in the municipality. They are responsible for planning, implementing, coordinating, and promoting the development of the AI industry.

The municipal development and reform departments shall coordinate major projects and infrastructure construction in the AI industry.

The municipal S&T departments shall support R&D and innovation for cutting-edge basic theories and key technologies for AI, promote the construction of major S&T innovation bases, and promote AI technology governance.

The municipal cybersecurity and informatization (网信) departments shall coordinate the cybersecurity and informatization work in the development of the AI industry and take responsibility for relevant network information content governance and supervision management work.

The municipal market supervision departments shall be responsible for AI industry measurement, standards, inspection and testing, certification and accreditation, and other work related to product quality supervision.

The municipal state-owned assets supervision and administration, human resources and social security, education, health, finance, statistics, national security, and other departments shall formulate relevant policies and measures within their respective jurisdictions to promote the development of the AI industry.

Article 7　The Municipal People's Government shall establish a Municipal Artificial Intelligence Strategy Advisory Expert Committee (人工智能战略咨询专家委员会) composed of experts from institutions of higher learning, scientific research institutions, enterprises, and other organizations to provide advice on major strategies and major decisions concerning the development of the AI industry in the municipality.

Article 8　AI industry associations and other AI-related industry organizations (collectively referred to as industry organizations) shall protect the legitimate rights and interests of their members in accordance with the law, promote the R&D and promotion of AI technology, promote industrial collaboration, strengthen industry self-discipline, carry out industry statistical monitoring, formulate standards and specifications, and promote the orderly development of the industry.

Article 9　This Municipality encourages citizens, legal persons, and other organizations to carry out various innovative activities in the field of AI provided such activities are not explicitly prohibited by laws, regulations, and relevant national and municipal regulations. The municipal economic and informatization departments,

together with other relevant departments, shall explore the establishment of a negative checklist (负面清单) for fields including AI scientific research and application.

Article 10 This municipality shall promote the coordinated and integrated development of the AI industry in the Yangtze River Delta region and explore and jointly promote the convergence of cross-regional AI industry development plans, mutual recognition of technical standards, sharing and mutual recognition of test data in key fields, cost and benefit sharing for infrastructure construction, and other work.

The municipality shall expand cooperation with the AI industry in other regions in China.

Article 11 The municipality shall deepen international cooperation. Relying on the China International Import Expo, World Artificial Intelligence Conference, and other exhibition activities, we shall organize and introduce international high-level academic conferences and joint innovation institutions related to AI, and provide an international cooperation platform for relevant entities to participate in the development and governance of the AI industry.

The municipality shall support enterprises, institutions of higher learning, scientific research institutions, and other organizations in strengthening international cooperation in areas such as AI basic research, technology development, industrial development, standards formulation, and personnel training.

Article 12 The municipality shall promote the popularization of science and technology in the field of AI, publicize new developments and new achievements in the AI industry through media such as radio, television, newspapers, and the Internet, and strengthen ethics, security, and social values guidance in the field of AI.

Chapter 2 Basic Factors of Production (要素) and S&T Innovation

Section 1   Basic Factors of Production

Article 13 The municipal economic and informatization departments, municipal development and reform departments, and other departments shall strengthen the planning of computing power ("compute") infrastructure, promote the construction of public compute infrastructure, promote the green and low-carbon development of compute infrastructure, and support relevant entities as they carry out compute infrastructure construction and open applications based on self-developed AI-dedicated computing architectures.

The municipal economic and informatization departments shall, in conjunction with the municipal development and reform departments and S&T departments, and other departments, formulate measures for the supply of public compute resources,

promote the construction and utilization of public compute platforms, strengthen the scientific scheduling (调度) of compute, provide public computing power support for AI technology and industrial development through compute awards and other methods, and ensure that small and medium-sized enterprises (SMEs) can obtain inclusive public compute.

The municipality shall encourage relevant entities to participate in the construction of compute infrastructure, carry out marketized compute resource transactions, guide the various industries to use compute resources in a reasonable and orderly manner, and improve the utilization efficiency of compute infrastructure.

Article 14 In accordance with national deployments, the municipality shall implement the "East-West Compute Transfer"[1] project, cooperate with other provinces and cities in the Yangtze River Delta to build a Yangtze River Delta national hub node for a national integrated big data center system, optimize the layout of data center infrastructure construction, improve the cross-network and cross-regional data interaction capabilities of data centers, guide the intensive, large-scale, and green development of data centers, and ensure the compute demand of AI industry development [can be met].

Article 15 The municipality shall support algorithm innovation, use policy support, platform construction, and other methods to encourage relevant entities to carry out algorithm R&D, realize algorithm credibility, conversion into hardware, modularization, systematization, and platformization (平台化), and promote the innovative development, application, and promotion of algorithm models.

The municipal economic and informatization departments shall support relevant entities in building and operating open-source platforms, open-source communities, and open-source projects for proprietary technologies, promote the compliant application of open-source software projects, accelerate commercialization training, and form a healthy open-source open ecosystem.

Article 16 The municipality shall promote the trading and circulation of algorithm models. The municipal economic and informatization departments, together with other relevant departments, shall guide industry organizations to formulate a catalog of recommended AI algorithm models, reduce risks in algorithm model transactions, and improve the efficiency of algorithm model transactions.

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[1] Translator's note: "East-West Compute Transfer" ("东数西算"; literally, "eastern data, western compute") refers to an initiative to build computing power in western China, where land and electricity are relatively cheap, in support of data centers located along China's densely populated and developed east coast.

The municipality shall encourage enterprises or third-party institutions to carry out algorithm model testing and evaluation. For algorithm models involving the public interest, the municipality shall encourage relevant entities to actively submit evaluation reports to relevant main oversight departments such as the municipal economic and informatization departments and explain the basic principles and intended purposes of algorithms in a way that the public can understand.

The municipality shall strengthen the protection of algorithm models and promote the application and promotion of algorithm models in compliance with laws. The municipal economic and informatization departments, together with other relevant departments, shall explore a filing system for algorithm models that have been tested and evaluated, focusing on AI-related data sets, algorithm design, and model training.

This municipality shall encourage industry organizations to formulate guidelines for collaborative algorithm innovation and cooperation and improve benefit-sharing mechanisms in the trading and circulation of algorithm models.

Article 17 The municipality shall promote the construction of high-quality data sets in the AI field. It shall support relevant entities to deeply integrate data and industry knowledge, develop data products, and serve algorithm design, model training, product verification, scenario applications, and other needs.

The municipality shall encourage relevant entities to carry out collaborative R&D on big data and AI technology, develop dedicated tools and a series of standards for data labeling, build big data laboratories for AI training, and build a large-scale AI data resource library.

The municipal economic and informatization departments shall, in conjunction with other relevant departments, conduct surveys of AI industry data resources, strengthen the organization of available data resources of key areas and key enterprises, summarize key industry data resources, and promote the development of the AI industry.

Article 18 Relying on the public data opening mechanism, the municipality shall establish a dynamic open list of public data in areas such as economic development, people's livelihood services, and urban governance, promote the categorized, graded, and orderly opening of public data in fields such as life and health and autonomous driving, and expand the scope of public data supply for the AI industry. It shall support relevant entities to apply for public data opening individually or jointly and ensure the fair use of open data by SMEs and individual developers.

The municipality shall support AI enterprises in developing and using data generated in AI applications, encourage enterprises to carry out transactions involving related data products through the Shanghai Data Exchange, create data value and

distribute the added-value benefits of data in accordance with laws and regulations, and promote data circulation and trading in the AI industry.

Section 2   S&T Innovation

Article 19 The Municipal People's Government and its relevant departments shall formulate policies and encourage institutions of higher learning, scientific research institutions, and enterprises to carry out basic theoretical research and key general purpose technology R&D on major cutting-edge scientific issues in the AI field.

The municipality shall support institutions of higher learning, scientific research institutions, and enterprises as they carry out research in interdisciplinary and cross-disciplinary fields related to AI and undertake major S&T and industrial innovation special projects.

Article 20 The Municipal People's Government and its relevant departments shall strengthen their support for major AI S&T infrastructure and major scientific research platforms, serve and promote the innovation and development of relevant national laboratories and the improvement of the capabilities of state key laboratories, and support the construction of AI research institutions affiliated with institutions of higher learning, scientific research institutions, and enterprises.

Article 21 Institutions of higher learning, scientific research institutions, and enterprises can adopt various methods to establish new research and development (R&D) institutions, explore an integrated model of R&D, testing, and application adapted to the rapid iteration of AI, use market mechanisms to integrate advanced AI technology and high-quality resources, and carry out activities such as R&D, innovative talent cultivation, and achievement application and promotion.

Article 22 The municipality shall encourage institutions of higher learning, scientific research institutions, and enterprises to carry out AI innovation and independent R&D in all fields, support the research, development, and production of core systems and key software and hardware, and realize the independent controllability (自主可控) of cutting-edge technologies and their applications in the fields of underlying interfaces, general purpose algorithms, and data processing protocols.

Article 23 The municipality shall encourage institutions of higher learning, scientific research institutions, and enterprises to open large-scale scientific instruments and facilities in the AI field to society.

The municipal economic and informatization departments and S&T departments shall work with other relevant departments to improve the incentive mechanisms for

the opening up and sharing of large-scale scientific instruments and facilities in the AI field.

Article 24 The municipality shall increase the AI industry technology innovation layout in strategic emerging industry projects and increase support for AI industry technology innovation, industrial foundation reengineering, and industrial demonstration applications in high-quality industrial projects.

Municipal S&T departments shall set up special AI projects in major municipal S&T innovation projects and support the development of basic theory and core technology research for AI technology.

Article 25 The municipality shall promote the reform of scientific research project establishment and organizational management methods, empower AI innovation teams and leading talents with greater technical approach decision-making authority and authority to use funds, and support the adoption of flexible salary systems and incentive measures for scientific researchers who undertake major AI S&T research tasks.

The municipality shall explore granting scientific researchers ownership or long-term use rights to S&T achievements in the AI field.

Article 26 The municipality shall establish incentive mechanisms to help promote the conversion of S&T achievements into practical applications (科技成果转化) in the AI field, encourage relevant entities to carry out cooperation in the conversion of S&T achievements into practical applications, support researchers from institutions of higher learning and scientific research institutions in engaging in the conversion of S&T achievements into practical applications by starting businesses after leaving their current positions, while staying on at their current positions, or by working part-time in enterprises, and encourage the establishment of professional service institutions for the conversion of S&T achievements into practical applications in the AI field.

Chapter 3 Industry Development

Section 1 General Regulations

Article 27 The municipality shall provide a good development environment for AI enterprises, take measures to improve the construction of an AI ecosystem featuring software and hardware integration, strengthen the concentration of AI enterprises, and establish a sound AI production chain.

Article 28 The Municipal People's Government and relevant departments shall formulate measures to bring in leading Chinese and foreign AI enterprises to establish headquarters in the municipality and expand emerging businesses. For leading

enterprises with strong innovation capabilities, the municipal government and relevant departments shall strengthen investment and financing, R&D, talent, market, and other policy support, improve the core technology level and business capabilities of enterprises, and cultivate world-class S&T leading enterprises (龙头企业).

The municipality shall attract first-class Chinese and foreign research institutions and talent teams and incubate and cultivate AI startups.

Article 29 The municipality shall support leading AI enterprises in opening up AI operating systems, algorithm frameworks, general purpose technologies, and data resources, drive the coordinated upstream and downstream development of the production chain, and build an AI industry ecosystem.

Article 30 The municipality shall build characteristic AI industrial parks (人工智能特色产业园区), strengthen the attractiveness of projects, and promote the development of industry clusters.

The municipality shall encourage characteristic AI industrial parks to provide services for talent recruitment, intellectual property protection, listing guidance, investment and financing matchmaking, and rent reduction and exemptions.

The municipal economic and informatization departments and other departments shall evaluate the degree of intelligentization (智能化) of characteristic industrial parks in accordance with relevant regulations.

Article 31 The municipality shall coordinate various special funds to support AI basic research, technological innovation, the conversion of achievements into practical applications, demonstration applications, talent recruitment, and important international cooperation and exchanges. For enterprises, institutions, or projects that have received municipal financial support, each district can provide corresponding auxiliary support.

Municipal and district financial departments shall focus on new technologies and new products such as the first round of AI smart chips, the first units (sets) of major technical equipment for AI, the first version of AI software applications, and the first version of AI software products. They shall strengthen special support for qualified innovative projects and explore support methods such as loan interest discounts.

The municipality shall encourage investment in AI R&D. Enterprises can include the innovation costs of AI products and technologies in R&D expenses and implement additional deductions in accordance with national regulations.

Article 32 Relevant municipal and district departments can support key AI projects that follow the industrial development orientation in accordance with relevant regulations such as on the nature of land use, floor area ratio, and building height,

giving priority guarantees to compute consumption indicators, terminal communication spectrum resources, and project power capacity connection.

Article 33 The municipality shall channel social capital[2] to support the development of the AI industry through various channels such as venture capital, venture capital funds, and capital market financing.

The municipality shall encourage state-owned capital to participate in AI industry investment. The municipal state-owned assets supervision and administration departments shall establish and improve a state-owned assets supervision system adapted to the development of the AI industry in accordance with relevant national and municipal regulations. Through the establishment of government funds such as AI industry funds, the municipality shall allow industrial investment guidance funds to play their due roles, mobilize various resources from society, and focus on supporting early-stage projects and rapid-growth startup enterprises in the AI field.

The municipality's local financial supervision and economic informatization departments shall support qualified AI companies in going public and raising funds in capital markets such as the STAR Market.[3]

The municipality shall encourage banks and other financial institutions to provide special loan support for AI enterprises.

Article 34 The municipality shall encourage institutions of higher learning to set up AI-related disciplines and interdisciplinary programs, support enterprises, institutions of higher learning, and scientific research institutions to jointly build education bases that integrate industry and education, and strengthen the cultivation of hybrid talents (复合型人才).

The municipality shall improve the evaluation standards for talents in the AI field and promote the evaluation of intermediate and senior professional titles of AI engineering and technical personnel and the evaluation of AI instructors. It shall explore the introduction and integration of international vocational training programs in the AI field and implement training and evaluation for digital technology engineers.

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[2] Translator's note: The Chinese term 社会资本, translated literally as "social capital," and its synonyms "social funding" (社会资金), "social investment" (社会投资), and "social financing" (社会融资), refer to any source of funding outside of government budget outlays. These terms encompass investment by private individuals and private institutions. However, investment from state-funded entities such as state-owned enterprises (SOEs), including state-run banks, also falls under the umbrella of "social capital."

[3] Translator's note: The STAR Market (科创板) is also known as the Sci-Tech Innovation Board of the Shanghai Stock Exchange. It was launched in July 2019 and markets itself as China's equivalent of the NASDAQ exchange in the United States.

The municipal economic and informatization departments shall, in conjunction with the municipal human resources and social security departments and other departments, include high-level, highly skilled, and scarce talents in the AI field in the scope of talent policy support and provide these talents conveniences in terms of household registration and residence permit processing, housing, medical assurance, and schooling for children.

Article 35 The municipality shall strengthen the protection of intellectual property rights in the AI field, improve interactive support mechanisms for technological innovation, intellectual property protection, and standardization in the AI field, promote the intellectual property rights of AI innovation achievements, and promote the application and popularization of new AI technologies. According to the relevant national and municipal regulations, the municipality shall support the inclusion of patent applications related to AI in the scope of rapid patent examination and confirmation services and improve the collaborative protection, rapid rights protection, and foreign rights protection systems for intellectual property rights in the AI field.

Article 36 The municipality shall encourage relevant insurance institutions to develop insurance products adapted to the characteristics of the AI industry in accordance with national regulations. These products shall cover the full lifecycle of business activities, such as product R&D, production, sales, and application.

The municipality shall support relevant entities in purchasing relevant insurance products when applying AI products and services.

Article 37 The Municipal People's Government and relevant departments shall support the municipality's AI enterprises and relevant industry organizations to take a leading role in the formulation of national standards, industry standards, and local standards for AI and participate in the formulation of technical standards for algorithm performance, data security, privacy protection, product compatibility, and performance testing.

The municipal market supervision departments shall formulate local standards for AI based on the actual development of the municipality's AI industry and guide the Shanghai Artificial Intelligence Standardization Technical Committee to strengthen relevant local standards and related technical work (技术归口工作). Municipal market supervision departments, municipal economic and informatization departments, and other departments shall guide AI enterprises and relevant industry organizations in taking the lead in studying and formulating enterprise standards and group standards related to AI. After voluntary application and evaluation by a third-party organization,

the special AI "Shanghai Standard" identifier can be placed in the text of standards that meet the requirements to be leaders in China and advanced internationally.

Article 38 The municipality shall establish a statistical categorization system for the AI industry. The municipal statistics departments shall, in conjunction with the municipal economic and informatization departments, formulate statistical categorization standards for the AI industry, conduct statistical surveys, monitoring, and analysis on the AI industry, and provide support for industry development trend assessment and the formulation of policies and measures.

Section 2 Key Advances to Promote

Article 39 According to the development trends of global AI technology and the global AI industry, the municipality shall leverage the municipality's industrial advantages and development foundation to promote the high-quality development of basic hardware, key software, and smart products by increasing policy support, building an innovation system, and promoting cluster development (集群发展).

Article 40 The municipality shall support relevant entities to carry out design innovations for high-efficiency smart chips based on advanced architectures, develop cloud chips and cloud smart servers, lay out neuromorphic chips (类脑芯片), strengthen software and hardware collaboration and adaptation, support joint construction of R&D testing and application platforms, strengthen technical collaboration and chip architecture interconnection, improve the competitiveness of smart chip products and technologies, and cultivate a smart chip application ecosystem.

The municipal development and reform departments and municipal economic and informatization departments shall promote the application of smart chips with proprietary technology in major projects such as computing power infrastructure.

Article 41 The municipality shall support relevant entities as they strengthen the R&D and application of AI framework software, develop engine framework tool systems, deepen AI framework and platform applications, and strengthen the mutual adaptation, performance optimization, and application popularization of AI framework software, chips, and other hardware.

The municipality shall support relevant entities as they develop artificial AI system software, develop and popularize machine self-learning systems, encourage relevant entities to develop operating systems for intelligent products, and promote the development of various application functions.

Article 42 The municipality shall promote the standardized and modularized construction of intelligent robot software and hardware systems, support the

cultivation of intelligent robot system integrators, encourage relevant enterprises, product users, and financial institutions to adopt methods such as product leasing and service procurement, and expand the application scenarios of intelligent robots.

The municipal economic and informatization departments and municipal market supervision departments shall promote industry organizations as they formulate standards such as those for robot intelligence level categorization and application safety testing, guide the iteration of intelligent robot technology, and ensure the information security and safe use of intelligent robots.

Article 43 The municipality shall support the independent R&D and industrial application of key technologies, operating systems, dedicated chips, and core components of intelligent networked vehicles.

The municipality shall support relevant entities as they carry out intelligent connected vehicle testing, demonstration applications, and demonstration operations on highways (including expressways), urban roads (including urban expressways), and specific areas in the municipality in accordance with relevant regulations. The specific regulations shall be formulated by the municipal departments of economy and informatization, transportation, public security, and other departments.

Article 44 The municipality shall encourage the development of the unmanned aerial vehicle (UAV) industry, support the construction of civil unmanned aviation test bases (test areas), UAV take-off and landing points and general airports, and UAV operation and management service platforms, strengthen multi-department coordination and supervision, provide route planning, electronic fence setting, and other services through operation and management service platforms, and support the expansion of UAV application scenarios.

The municipality shall encourage the development of the unmanned surface vehicle (USV) industry, improve the support systems such as USV electronic channel surveying and intelligent shipping communications, and carry out USV channel tests in specific areas.

Article 45 The municipality shall support relevant entities in the R&D of key technologies for AI medical devices, strengthen breakthroughs in intelligence-assisted diagnostic algorithms, surgical positioning and navigation, and integrated brain-computer interfaces; strengthen the relevant guidance services for the registration and approval of AI medical devices and support the entry of relevant innovative products to the special approval process for national innovative medical devices; and support the exploration of fee charging models in the clinical applications of qualified AI medical devices.

Chapter 4 Application Empowerment

Section 1 General Regulations

Article 46 The municipality shall promote the large-scale application of AI in the fields of the economy, everyday life, and urban governance, accelerate digital transformations, encourage relevant organizations to adopt methods such as product leasing, service procurement, system integration, and financial leasing, and use AI technology and products to conduct R&D, manufacturing, service, management, and other businesses.

The municipal economic and informatization departments shall, in conjunction with relevant departments, formulate and regularly update the AI demonstration application list and guide relevant parties to strengthen AI application in the fields of the economy, everyday life, and urban governance.

Municipal state institutions, public institutions,[4] state-owned enterprises (SOEs), and other organizations authorized by laws and regulations to manage public affairs in this city shall take the lead in implementing the AI demonstration application list, optimize procurement systems as needed, improve transaction mechanisms, and procure and use safe and reliable AI-related products and services.

Article 47 The municipality shall promote the application of innovative products and services in the AI field. For eligible new products and initial applications, support shall be provided in accordance with relevant policies. Government procurement purchasers may, upon approval in accordance with the law, purchase innovative products that meet the standards for public tender through non-public tender.

The municipal economic and informatization departments, in conjunction with municipal S&T departments, shall include qualified AI products and services in the municipality's catalog of recommended innovative products.

Article 48 The municipality shall establish an open system for AI application scenarios. The municipal economic and informatization departments shall establish and improve relevant incentive mechanisms, regularly solicit and publish application scenario requirements and demonstration solution lists, build a real-world scenario

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[4] Translator's note: "Public institutions" (事业单位) are organizations created and led by PRC government departments that provide social services. Unlike state-owned enterprises (SOEs), public institutions do not create material products and are non-profit. Public institutions are not considered government agencies, and their employees are not civil servants. Most public institutions are fully or partially government-funded, but some fully privately funded (but still government-led) public institutions exist. Public institutions typically provide services in areas such as education, science and technology, culture, health, and sanitation.

testing environment, and promote scenario cultivation, discovery, implementation, and demonstration scenario promotion.

Relevant entities involved in AI applications shall promote the optimization, upgrading, and continuous operation of application scenarios. They shall encourage diverse entities such as third-party service institutions and financial institutions to participate in the construction and operation of AI scenarios.

Article 49 Relevant municipal departments shall organize industry organizations to formulate evaluation methods for AI application effectiveness, establish evaluation mechanisms for the intelligence level of AI products and applications, explore and evaluate the comprehensive social impact of AI products and applications, and promote the in-depth application and continuous innovation of AI.

Article 50 Pudong New Area shall serve as a pilot area for AI innovation and applications, carry out pilot projects for institutional innovation in the AI field, and accelerate the mutual development of leading industries such as AI, integrated circuits, and biotechnology, medicine, and pharmaceuticals.

Pudong New Area shall explore the establishment of AI asset evaluation systems for assets such as compute, algorithm models, and high-quality datasets, encourage relevant industry organizations to formulate AI asset assessment guidelines, construct AI asset evaluation indicators, and support relevant institutions as they carry out AI asset evaluation in Pudong New Area.

In accordance with the relevant national and municipal regulations, the relevant municipal departments and the Pudong New Area People's Government shall intensify innovative pilot efforts in areas such as the commercialized operation of intelligent connected vehicles, technological breakthroughs in the R&D of AI medical devices and AI-assisted drugs, and the testing and operation of UAVs and USVs.

Section 2 Economic Applications

Article 51 The municipality shall promote the deep integration and innovation of AI, information technology, and manufacturing and promote the integrated application of key technical equipment for smart manufacturing, core support software, and industrial internet systems. The municipality shall support enterprises as they carry out technological transformation and upgrading through special policies to promote high-quality industrial development and promote the digitalization and intelligentization transformation of the manufacturing industry.

Article 52 The municipality shall promote the in-depth integration of AI, big data, and the financial industry, encourage the financial industry to improve multimedia

financial data processing and understanding capabilities, promote the intelligentization transformation of the financial industry, and develop intelligent financial product and service innovations.

The municipality shall support financial institutions and other market entities in the application of AI technologies and equipment such as intelligent investment advisors, intelligent customer service, and intelligent risk control and improve intelligent early warning and prevention and control capabilities for financial risks.

Article 53 Relevant municipal departments shall support enterprises as they apply new AI-based business services and decision-making systems, encourage enterprises to develop and apply new technologies such as cross-media analysis and reasoning and knowledge computing engines (知识计算引擎) in the business field, and promote the intelligentization transformation of business.

Article 54 The relevant municipal departments shall take measures to promote the digital and intelligentization upgrading of cargo management, transportation services, and station facilities, support enterprises as they develop and promote the application of emerging intelligent logistics equipment such as intelligent loading and unloading, sorting and packaging, and processing and distribution, and improve the level of automation and intelligentization in logistics processes.

Section 3 Everyday Life Applications

Article 55 The municipality shall encourage the application of AI technology on the Internet, promote AI to improve the matching and predictability of information searches, expand content production and interpersonal interaction methods in social media, and promote the integrated online and offline development of e-commerce.

Article 56 The municipality shall promote the normalization of AI in teaching, management, resource construction, and other end-to-end applications and establish a new type of modern education system and innovative talent training system suited to the intelligence age; build digital twin schools and explore the construction of applications such as digitization experiments, training, and venues; and explore the application of AI technology to enrich the supply of educational resources and build intelligentized and open educational resource platforms.

The municipality shall encourage educational institutions, enterprises, and other institutions to provide intelligent, targeted, and personalized services in various learning scenarios and help build an intelligent education ecosystem environment.

Article 57 The municipality shall promote the application and innovation of AI in the medical field, build intelligent medical infrastructure, establish a new model for

AI-empowered medical services, improve medical technology innovation capabilities, and promote the intelligentization transformation of the medical field. It shall support medical institutions, enterprises, and other applications, develop intelligent medical systems featuring human-computer coordination (人机协同), and encourage the development of flexible, wearable, and biocompatible intelligent physiological monitoring systems.

Article 58 The municipality shall promote the application of AI to improve the quality of urban elder care and enhance the intelligentization transformation and upgrading of urban elder care infrastructure; encourage relevant entities to adopt AI technology, intelligent terminals, and digital platforms to provide convenient elder care services; and encourage relevant entities to develop intelligentized and age-appropriate elder care products and services.

Section 4 Urban Governance Applications

Article 59 The municipality shall promote the application of AI to improve the modernization level of urban governance capabilities and increase AI technology application and investment in the construction of informatized government systems.

The municipality shall strengthen the integrated construction of "unified online government services" for government services and "unified online management" for urban operations, develop AI platforms for government services and decision-making, apply AI technology in innovative manners, and strengthen dynamic, intelligent, and precise monitoring of the urban operating status.

Article 60 The municipality shall strengthen the construction of intelligentized urban infrastructure, promote the scientific deployment of intelligent terminals for video and images, monitoring and sensing, and control and implementation, strengthen the integration of AI technology and Internet of Things applications, and support the precise interaction between the physical city and digital city.

Article 61 The municipality shall build an intelligent hub for urban operations, establish a distributed, multi-center urban data hub system, promote the realization of cross-department, cross-industry, and cross-regional data collaboration, technical collaboration, and business collaboration, encourage the development of AI solutions for the different application scenarios of digital cities, and build urban digital twin platforms.

Article 62 The municipality shall comprehensively promote AI scenarios and applications in urban governance, focus on fields such as community governance, public safety, traffic management, emergency management, market supervision, ecological environment protection, planning and construction, and the management of

glass curtain walls in buildings, deepen the comprehensive application of AI, improve overall urban operation and decision-making efficiency, and improve prevention and emergency response capabilities for public health and other emergencies.

Article 63 The municipality shall support the construction of a smart justice (智慧司法) system, integrate functions such as data application, judicial disclosure, and dynamic tracking, promote the application of AI in case triage (案件分流), evidence collection, case analysis, legal document reading and analysis, and other areas, and improve the intelligentization level of the judicial system.

Chapter 5   Industry Governance and Security

Article 64 The municipality shall adhere to the holistic approach to national security (总体国家安全观), coordinate the development and security of the AI industry, and ensure the security of the production and supply chains. Relevant departments shall conduct security inspections and supervision of AI applications in accordance with the law.

Article 65 The Municipal People's Government and relevant departments shall target new technologies, new industries, new business formats, and new models of AI, adapt to the rapid iteration that is a feature of AI, formulate, revise, or abolish corresponding regulatory rules and standards, explore level-by-level governance and sandbox regulation, stimulate the innovative vitality of various entities, and expand the space that AI has to develop.

The municipality shall implement checklist-style management (清单式管理) for high-risk AI products and services and conduct compliance reviews in accordance with the principles of necessity, appropriateness, and controllability. The municipality shall adopt a governance model of disclosure in advance and control after the fact for low- and medium-risk AI products and services and promote pilot trials. The specific measures shall be formulated separately by the Municipal People's Government.

Relevant municipal departments can formulate a list of non-administrative penalties for minor violations in the development of the AI industry and encourage citizens, legal persons, and other organizations to carry out production and business activities in compliance with laws and regulations through measures such as criticism and education and guidance through scheduled conversations (约谈).[5]

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[5] Translator's note: A "scheduled conversation" (约谈) is a disciplinary measure that a Chinese government or Party organization takes when a subordinate organization or individual is suspected of misconduct. The higher-level organization meets with the subject of investigation face-to-face and stresses to them the importance of following regulations.

Article 66 The municipality shall establish an AI ethics expert committee to perform the following duties:

(1) Organize the formulation of ethical norms and guidelines for the AI field;

(2) Guide institutions of higher learning, scientific research institutions, enterprises, and relevant industry organizations to conduct research and explorations on ethical theories in the AI field and promote participation in discussions on major ethical issues in the AI field and the formulation of norms in China and abroad;

(3) Encourage AI enterprises to explore and establish ethics and security governance systems;

(4) Carrying out assessments of the potential risks of AI applications involving life, health, public safety, and other key areas;

(5) Carry out ethical advisory activities in the AI field and provide decision-making consulting services for relevant departments;

(6) Carry out education and propaganda on ethics and safety in the AI field.

Article 67 Relevant entities that carry out AI R&D and application shall abide by laws and regulations, enhance their ethical awareness, and shall not engage in the following behaviors:

(1) Providing products and services that endanger national security or social security and public security;

(2) Providing products and services that endanger the safety of the persons or property of users or infringe on personal privacy or personal information rights;

(3) Providing products and services that discriminate against users on the basis of ethnicity, race, gender, age, occupation, or religious beliefs;

(4) Using algorithm technology to carry out price discrimination, consumption fraud, or other behaviors that infringe upon the rights and interests of consumers, or to conduct monopolistic or unfair competition behaviors;

(5) Using deep synthesis (深度合成) technology to engage in conduct prohibited by the state;

(6) Engaging in other behavior that violates relevant laws, regulations, public order, and good morals.

Article 68 Entities that use biometric recognition technology to provide services and entities that provide corresponding technical support (hereinafter referred to as biometric service providers) shall adopt secure and controllable (安全可控) technical safeguard measures and establish sound algorithm management systems. The

municipal cybersecurity and informatization departments and other departments shall strengthen the supervision of biometric information and supervise and guide biometric service providers in their provision of relevant services.

Article 69 Employers shall comply with laws, regulations, and ethical norms in the application of AI technology to assist in labor discipline management, labor scheduling, and recruitment and promotion decisions. They shall not set discriminatory conditions and shall protect the legitimate rights and interests of laborers.

Article 70 The municipality shall strengthen the application of AI in fields such as education, healthcare, elder care, child care, and assistance for the disabled to improve the quality of life of special groups such as the elderly, the disabled, women, and minors. In the provision of intelligentized public services, the needs of special groups such as the elderly, the disabled, women, and minors shall be fully considered and alternative solutions shall be set up when necessary.

Chapter 7   Supplementary Provisions

Article 71 The AI technology referred to in this Regulation is the AI technology listed in the State Council's *New Generation Artificial Intelligence Development Plan*,[6] including machine learning, knowledge graphs, natural language processing, computer vision, human-computer interaction, biometric feature recognition, virtual reality (augmented reality), and other key technologies.

Article 72 This Regulation shall come into force on October 1, 2022.

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[6] Translator's note: For an English translation of the New Generation Artificial Intelligence Development Plan, see:
https://www.newamerica.org/cybersecurity-initiative/digichina/blog/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/.