Policies and Trends in Artificial Intelligence Development in China, Japan, and Korea: Post-Print

Authors: Wang Baohua, Zhang Jie, He Xinlei, Zheng Bo 4

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Abstract

Artificial intelligence has become one of the pivotal technologies for future global development and a primary component of national strategic competition among countries. As East Asian nations, China, Japan, and South Korea have conducted national-level planning and exploration in AI policy, talent cultivation, and ethical, legal, and social issues, accumulating experience, identifying gaps, and providing international references for AI development. How to resolve the inherent contradictions—the shortage of AI talent and the ethical, legal, and social challenges triggered by artificial intelligence—constitutes an urgent issue requiring attention and research in the fields of science/technology and media/communication.

Full Text

Preamble

Artificial Intelligence Development Policies and Trends in China, Japan, and South Korea

Authors: Asia Pacific Foundation of Canada
Translators: Wang Baohua[1], Zhang Jie[2], He Xinlei[3], Zheng Bo[4]

[1] Collaborative Innovation Center, Communication University of China, Beijing 100024
[2] Academic Affairs Office, National Academy of Education Administration, Beijing 100067
[3] Asia-Pacific Headquarters, China Media Group, Beijing 100021
[4] Department of Discipline Construction and Development Planning, Communication University of China, Beijing 100024

Abstract: Artificial intelligence has emerged as a pivotal technology for the world's future development and a central component of national strategic competition. As East Asian nations, China, Japan, and South Korea have undertaken national-level planning and exploration in AI policy, talent development, and ethical, legal, and social issues, accumulating valuable experience while identifying gaps that provide international lessons for AI development. Key contradictions demanding urgent attention from technology and media sectors include the shortage of AI talent and the ethical, legal, and social challenges triggered by artificial intelligence.

Keywords: artificial intelligence; government policy; talent; ethics; legal and social issues

1. Executive Summary

Trade friction has highlighted the growing role of artificial intelligence and other technologies in contemporary foreign policy, drawing attention to the need for governments to approach AI governance strategically and comprehensively on the global stage. In recent years, the AI field has made significant advances amid the proliferation of big data, accelerated computing progress, and greater internet integration, elevating a discipline long relegated to the periphery. Many people, particularly in Asia, view the 2016 AlphaGo victory over Lee Se-dol as a watershed moment marking a shift in the zeitgeist. The possibilities—and accompanying fears—generated by AI progress have begun to dominate public discourse, blurring the line between science fiction and reality and, to some extent, intensifying public anxiety while underscoring the urgent need for policy intervention.

2. Introduction

This is an exciting moment for artificial intelligence. Recent research breakthroughs, combined with the transformation toward data-based societies and economies, signal that AI has entered a golden age. Daily media coverage continues to spread stories—often sensational—about how AI will revolutionize our way of life. Yet contrary to public expectations, AI will not dramatically transform the world overnight. Instead, it will make existing products and services faster and more efficient. AI will not exist in isolation but will function as applications integrated into current hardware or services to maximize their efficiency —more akin to electricity than to the Terminator' s T-800. This ubiquity means that, like electricity, AI is already influencing most of what we do today, with significant policy implications that present both challenges and opportunities for the world.

Discussing AI proves challenging for the general public, let alone formulating relevant policies. Much remains unknown in AI regulation and governance, with

new frontiers continually emerging. However, China, Japan, and South Korea have begun developing AI policies in comprehensive and decisive ways. This report is based on the recognition that all three nations view AI as critical to enhancing their international competitiveness and have undertaken nationwide measures to strengthen their AI capabilities. Their national AI strategies ambitiously cover everything from research and development to commercial deployment and consideration of ethical, legal, and social implications (ELSI). This report provides detailed documentation of these three nations' AI initiatives.

2.1 Structure and Methodology

This report is based on qualitative analysis of policy documents, reports, and media coverage, supplemented by interviews with relevant scholars, policymakers, and practitioners in Beijing, Seoul, and Tokyo conducted primarily in spring 2018, with additional follow-up conversations. As of July 2019, trade friction between the United States and China continued, with the U.S. attempting to curb the rise of Chinese high-tech companies, exemplified by White House and Department of Commerce restrictions on Huawei's access to American suppliers.

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2.2 Artificial Intelligence 101

Defining intelligence has long divided philosophers, making artificial intelligence even more challenging to define, especially when combined with related technologies like robotics and 5G that do not themselves constitute AI. No precise definition exists; even Stuart Russell and Peter Norvig's authoritative textbook *Artificial Intelligence: A Modern Approach* offers four definitions—thinking humanly, thinking rationally, acting humanly, and acting rationally—while noting AI's interdisciplinary foundations in philosophy, mathematics, economics, neuroscience, psychology, computer engineering, control theory, cybernetics, and linguistics. Ryan Calo describes AI as an "umbrella term for many different technologies," an approach adopted by other policy documents on this topic.

For this report, we define AI as the computer simulation of human intelligence, primarily referring to machine learning—a form of data analysis where systems automatically identify patterns and make decisions. The theory itself is not new, but it has gained popularity in recent years due to the availability of big data and computational hardware capable of running these systems. It is worth noting that we remain far from achieving AI like the Terminator's T-800 or *Bicentennial Man*'s Andrew; current AI programs are limited to performing specific tasks for which they were designed—what is known as "narrow" AI. In contrast, artificial general intelligence (AGI), capable of performing any task a human can, is not expected by experts to emerge in the near future. As

Martin Ford' s interviews conclude, AI will primarily supplement rather than replace human intelligence in the foreseeable future. This report focuses on the more immediate challenges of integrating narrow AI into daily life rather than AGI-related issues.

2.3 Why Develop AI Policy?

If we are not worried about self-aware robot armies, why should policymakers concern themselves with AI? The reason is that AI represents a disruptive technology that will significantly affect not only business operations but society as a whole. Global consensus holds that policymakers should support national AI research and industry to capitalize on economic opportunities. However, this report argues that AI policy demands attention not only for economic reasons but because three broader challenges exist in this rapidly evolving field.

First, most countries lack the necessary infrastructure to achieve AI objectives. A global AI talent shortage has major companies from Silicon Valley to Beijing competing to hire AI professionals. Infrastructure challenges extend to data—the "fuel" for AI. More available data yields better AI, yet most countries today have regulations restricting data flow due to privacy concerns. Reforming existing regulations is necessary to enable data use while ensuring citizens' privacy rights. Just as governments built highways and established traffic rules for mass automobile production, citizens and industry need government involvement to build infrastructure for an AI-driven economy.

Second, AI involves ethical, legal, and social implications that will permeate different domains. The most widely known example is labor market disruption from automation; McKinsey estimates that AI could replace up to 30% of human labor by 2030. AI also poses potential threats to privacy rights and threatens to perpetuate and worsen existing socioeconomic biases. Economist Joseph Stiglitz warns that AI may further deepen wealth inequality. Experts express concerns about malicious AI use, from new types of scams to drone attacks. These concerns highlight the need for greater state involvement in proactively adjusting regulations to promote R&D and deployment while preparing citizens for an AI-integrated society.

Third, AI presents potential challenges to national sovereignty. At the most basic level, integrating AI into weapons and weapon systems could change the nature of warfare. Russian President Vladimir Putin recently stated that "whoever leads in AI will rule the world," framing policy debates around AI competition—a race for technological supremacy among nations. More subtly, AI may challenge states' ability to govern effectively. Due to its decentralized nature, AI is difficult to regulate and could undermine states through ELSI issues like mass unemployment or misinformation. AI thus threatens national sovereignty at multiple levels, requiring policy responses.

Policymakers have recognized these opportunities and challenges, with governments worldwide beginning to announce their AI strategies.

3. China

3.1 Government Policy

China has positioned AI' s role in its policy through a specific vision document released in 2015. Its latest Five-Year Plan (2016-2020) clarified intentions to invest in and achieve leadership in big data and "intelligent manufacturing." *Made in China 2025* has consistently emphasized upgrading Chinese manufacturing through emerging technology integration. On July 8, 2017, China' s State Council released the *Next Generation Artificial Intelligence Development Plan*, a comprehensive strategic document explicitly proposing to become a global leader in AI by 2030 .

The plan follows four guiding principles. First, it should be technology-led, meaning policymakers must recognize the necessity of achieving leadership in frontier AI technologies. Second, implementation must be systematic, integrating basic research, technology development, industrial growth, and commercial applications within one system. Notably, it emphasizes leveraging the superiority of the socialist system to support this systematic approach, granting the central government greater policy autonomy. Third, implementation should be market-driven, leveraging private sector resources. It stresses the need to clearly define government and private sector responsibilities to maximize government roles in planning, guidance, policy support, security, regulation, environmental protection, and ethical guideline formulation. Fourth, the plan should follow open-source sharing concepts, promoting collaboration among industry, academia, research, and production units. It emphasizes promoting two-way transformation and application of civilian and military AI technologies and continuing participation in global research.

To implement the *Next Generation Artificial Intelligence Development Plan*, the Ministry of Industry and Information Technology issued the *Three-Year Action Plan for Promoting Next-Generation AI Industry Development (2018-2020)*, identifying target AI products such as autonomous vehicles, medical imaging diagnostic assistance systems, video and speech recognition systems, smart home products, and intelligent translation systems. Since launching the *Next Generation Artificial Intelligence Development Plan*, China has made significant progress in this area through its unique policy advantages. By October 2018, 15 of 34 local governments had announced their own AI strategies. Combined, these 15 AI strategies were projected to reach an AI industry scale of 429 billion RMB (CAD 80.17 billion) by 2020—nearly three times the national target of 150 billion RMB (CAD 30.5 billion)—highlighting the influence of national directives on local policy. The private sector has followed suit, with Chinese startup competition being notoriously fierce. Government approval is quickly understood by ambitious entrepreneurs as a profit opportunity; in 2017, Chinese startups received 48% of total global AI funding.

3.2 AI Research and Talent

The AI talent issue represents a major policy concern not only in China but worldwide. This is a murky area for examination, as defining "AI talent" proves challenging. China's official AI policy documents, including the *Next Generation Artificial Intelligence Development Plan*, explicitly identify AI talent shortage as a significant policy issue. Tencent also notes this shortage, projecting a gap of up to 5 million qualified workers in coming years.

The Chinese government has prioritized addressing AI talent shortages. Even before the current push, China had recruited outstanding global academic talent in science and engineering through programs like the Thousand Talent Program. The private sector plays a crucial role in AI, with companies like Baidu, Alibaba, and Tencent investing their own resources to compete with Silicon Valley and other tech giants to attract global AI talent. According to Zhang Xiaodong (Nick Zhang), Director of the Wuzhen AI Research Institute, major companies offer experienced AI researchers salaries of $1 million or higher. These combined efforts appear to be yielding results; according to a Tencent report, the proportion of foreign AI talent in China rose from 5.2% to 7% between 2015 and 2017.

China's long-term priority, however, is strengthening its domestic AI talent pool and investing in AI education at the national level. In April 2018, the Ministry of Education released the *Higher Education Institution AI Innovation Action Plan*, aiming to continuously enhance scientific innovation, talent cultivation, and international cooperation in AI. By 2030, higher education institutions will become core forces in building world-leading AI innovation centers and talent hubs, providing scientific support and talent guarantees for China to join the ranks of innovative nations. Under this plan, by 2020 China will have established 50 world-class textbooks, 50 national high-quality online courses, and 50 AI colleges.

Following the *Next Generation Artificial Intelligence Development Plan*' s proposal to "gradually implement national intelligent education programs and establish AI-related courses in primary and secondary schools," the *AI Fundamentals (High School Edition)* textbook was officially published in 2018. Currently, 40 schools have introduced this textbook and launched AI high school programs as the first batch of "AI Education Experimental Base Schools." Reports indicate that primary schools are also introducing basic AI courses to students.

3.3 AI Ethics, Legal, and Social Issues

This particularly thorny topic relates to national cultural and political differences, and China' s AI development has intensified global reactions characterized by anxiety and fear. Since 2015, the Chinese government has promoted a social credit system that rates citizens based on their behavior in society. Depending on their ratings, citizens may face punishments (such as bans on public transportation or loan denials) or receive rewards (such as public bicycle rental

discounts or access to government loans). The project is expected to roll out nationwide in 2020, with international experts expressing concerns about increased surveillance capabilities and potential impacts on overseas democratic institutions.

At the public level, concerns about AI ethics, legal, and social issues are growing. Chinese consumers have resisted private data abuse, expressing their concerns online. The government is strengthening regulation; for example, the Ministry of Industry and Information Technology issued warnings to Baidu, news platform Toutiao, and payment platform Alipay regarding personal data abuse and ordered these companies to address citizen complaints. More broadly, the *Next Generation Artificial Intelligence Development Plan* explicitly calls for establishing a "safety assessment framework" and adjusting citizens' education systems to better prepare the economy and society for AI reliance. China's AI Standardization Administration's White Paper (March 2018) states the government's commitment to addressing ethics, legal, and social issues mentioned in the plan, emphasizing the importance of safety, ethics, and privacy. In June 2019, the Ministry of Science and Technology also released Next Generation AI Governance Principles .

3.4 Conclusion

China views AI as a critical technology for national competitiveness and has invested substantial resources to achieve its goal of becoming a global AI research and application leader by 2030. Regardless of the quality of China's AI innovation, the announced *Next Generation Artificial Intelligence Development Plan* has created considerable buzz among relevant stakeholders (private sector, academia, local governments) and abroad. The importance of AI for future national competitiveness, combined with the scale and speed of China's AI agenda, has generated concern and anxiety in other countries.

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4. Japan

4.1 Government Policy

AI has been integrated into Japan's overall growth agenda, characterized by the Society 5.0 vision. When Prime Minister Abe took office in 2012, he pursued an aggressive economic policy known as "Abenomics" to address economic stagnation. In this context, the Japanese government created the concept of Society 5.0, a socioeconomic vision aiming to use emerging technologies, particularly AI, to create a "human-centered society that balances economic development with the solution of social problems through a system that highly integrates cyberspace and physical space." In 2016, Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT) first introduced this concept in its Fifth Science and Technology Basic Plan (Japan's five-year science and

technology strategy). Society 5.0 further integrated into Japan' s economic development strategy when, in June 2017, Japan' s Future Investment Council announced a new development strategy that clearly recognized Society 5.0' s vision and identified healthcare, mobility, distribution, smart cities, and financial technology as priority areas. The growth strategy proposed the following objectives: strategic government investment in areas where Japan holds advantages; development of data platforms for cross-sector data utilization and provision of public data for private sector needs; support for individual-centered adult education to strengthen citizens' IT skills; introduction of a "regulatory sandbox system" to trial new ideas; and connecting these measures with broad regions, companies, and individuals.

As part of implementing Society 5.0, Japan' s Cabinet established the AI Technology Strategy Committee to oversee AI R&D and implementation. This committee serves as a "control tower" for three main ministries related to AI—MEXT, the Ministry of Internal Affairs and Communications (MIC), and the Ministry of Economy, Trade and Industry (METI)—coordinating policies within and sometimes across other ministries such as health or agriculture. These ministries oversee national institutions conducting AI-related research, including the National Institute of Information and Communications Technology (NICT), RIKEN, the Japan Science and Technology Agency (JST), and the National Institute of Advanced Industrial Science and Technology (AIST), further enabling them to promote government-industry-academia collaboration in AI.

The Strategy Committee formulated the AI Technology Strategy in 2017, outlining Japan' s AI R&D and industrialization roadmap with the goal of developing an AI industry ecosystem by 2030. The strategy assigned three distinct research areas for AI applications (healthcare, manufacturing, and logistics), each with its own implementation capacity, and designated R&D institutions and private sector companies to achieve research objectives .

Thus, the Japanese government has established a framework for strategically promoting collaboration to fully leverage Japan's strengths and resources among academia, industry, and government to achieve the ultimate goal of Society 5.0.

4.2 AI R&D and Talent

Japan' s self-identified weakness in AI is its lack of talent. The International Economy and Trade White Paper (2017) noted a shortage of approximately 50,000 people in technology fields including AI. Professor Mitsuru Ishizuka of the Cognitive Creation Center points out that Japanese researchers lag in deep neural networks, making Japan a follower in this technology.

In Japan, large corporations lead AI R&D and talent recruitment because they have the resources to attract talent. According to a Canadian official in Tokyo, Japan has historically been reluctant to seek cooperation with foreign companies on technical issues, but the lack of AI talent has changed this attitude, making international partnerships more attractive. According to the AI, Robotics and

Work and Employment Report, Japanese companies have begun hiring foreign talent to address this gap. However, the official notes that most Japanese companies seek to acquire foreign talent through consulting or purchasing startups rather than bringing talent to Japan. Japanese private sector interest in acquiring Canadian AI talent is reflected in Fujitsu' s recent opening of a global AI headquarters in Vancouver, British Columbia in November 2018.

Government commitment to promoting AI has positively impacted AI education, fostering collaboration between private and public sector entities. MEXT and METI jointly developed AI-related university curricula, bringing together universities, the Japan Business Federation, and industry stakeholders in a national advisory body to address talent shortages and research weaknesses. Additionally, government ministries work closely with national research institutions and the private sector to promote research and applications in their assigned areas. The Japan Deep Learning Association (JDLA) launched an AI certificate program through which engineers and managers receive short-term training in AI fundamentals.

4.3 AI Ethics, Legal, and Social Issues

Society 5.0 views economic growth and social problem-solving as inseparable. Therefore, beyond R&D and economic growth, Society 5.0 includes Japan' s approach to ethics, legal, and social issues in AI development. To address these issues, Japan' s Cabinet committed to establishing an Advisory Council on AI and Human Society. Comprising 12 members from diverse academic backgrounds (humanities, social sciences, engineering, law, etc.), the council advises the Cabinet on ethics, legal, and social issues from interdisciplinary perspectives. The council' s report on AI and Human Society (March 2017) examined specific, urgent issues in mobility, manufacturing, personal services, and communication from ethical, legal, economic, educational, social, and R&D perspectives. Additionally, MIC held the AI Network Conference in 2017 with approximately 40 members from academia, industry, and civil society. A subcommittee at the conference drafted AI R&D Principles as ethical guidelines for researchers, demonstrating that the Japanese government is paying attention to AI-related ethics, legal, and social issues and providing space for active discussion.

Academia has also vigorously debated AI ethics, legal, and social issues. The Japanese Society for Artificial Intelligence (JSAI) established an Ethics Committee in 2014, which began drafting ethical guidelines in early 2016 and released the JSAI Ethical Guidelines in May 2017. Targeting AI researchers, the guidelines emphasize awareness of social responsibility and the importance of maintaining effective communication with society .

4.4 Conclusion

Japan' s AI strategy is highlighted by strong government leadership. Policies introduced thus far clearly demonstrate that Japan views enhancing R&D capa-

bilities and integrating AI into its economy, particularly manufacturing, as a key priority on the national economic agenda. The establishment of the Strategy Committee (control tower) emphasizes the importance of government support, providing space for major ministries (MEXT, METI, and MIC) to coordinate their AI policies while offering a forum for policymakers, industry, and research institutions to co-create the foundation for a new economy driven by emerging technologies like AI.

Due to the emphasis on AI in Japan' s economic policy, AI has impacted private domains such as talent development. In the talent domain, both government and industry are keenly aware of Japan' s strengths in basic AI research and hope Canada can fill existing gaps. Because of their conservative attitudes toward workers, Japanese companies are only now realizing they must cooperate with foreign talent to compensate for weaknesses in AI research. Japan' s capital and manufacturing capabilities can be effectively combined with Canada' s basic AI research. Finally, the Japanese government' s proactive actions on AI ethics, legal, and social issues demonstrate that Japan sees AI as extending beyond science and technology policy into broader national policy. Japan' s AI ethics, legal, and social institutions have been active in developing early and extensive AI ethical guidelines with an eye toward the technology' s international governance.

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5. South Korea

5.1 Government Policy

In 2017, South Korea' s Ministry of Science, ICT and Future Planning (now the Ministry of Science and ICT) launched the *Intelligent Information Society: Mid-to-Long-Term Master Plan in Response to the Fourth Industrial Revolution.* This policy document outlined R&D strategies and ethical, legal, and social impact issues facing greater AI adoption, presenting a roadmap to: establish world-class technological foundations; promote intelligent industries; and revise existing social policies and regulations. The document provided a 30-year collaborative framework among technology, industry, and civil society. Following a power shift, the Ministry of Science, ICT and Future Planning was reorganized in May 2017, rendering the master plan outdated. However, the plan reflected the government' s basic approach to AI, which the Presidential Committee on the Fourth Industrial Revolution (PCFIR) elaborated in greater detail.

Newly elected President Moon Jae-in established PCFIR in November 2018. Operating under the slogan "private sector-led, government-supported," the committee comprises private sector leaders and scholars plus five ministers from relevant departments and the president' s science advisor, totaling 25 members [Figure 1: see original paper]. Approximately 30 staff from the Ministry of Science and ICT support the committee' s daily operations.

[Figure 1: see original paper]

PCFIR' s key document is the *Human-Centered Response Plan for the Fourth Industrial Revolution Promoting Innovative Growth*, known as the I-Korea 4.0 strategy. This strategy outlines a comprehensive national plan to support R&D and deployment of Fourth Industrial Revolution technologies. Similar to Japan' s Society 5.0, I-Korea 4.0 sketches a comprehensive vision for developing and applying these technologies to support economic growth and solve social problems. More specifically, I-Korea 4.0 outlines plans to promote intelligent technology innovation projects across 12 different sectors [Figure 2: see original paper]; secure growth engine technologies; build industrial infrastructure and ecosystems; and prepare for future society.

[Figure 2: see original paper]

In June 2019, President Moon announced the Manufacturing Renaissance Strategy, injecting KRW 8.4 trillion (USD 7.1 billion) into key technology industries such as non-memory chips, future mobility, and bio-health technologies, while upgrading Korean manufacturing through AI integration. This strategy echoes *Made in China 2025* in many respects, demonstrating Korea' s ambition not only to maintain but also to enhance its manufacturing competitiveness, aiming to become one of the world' s top four exporters and increase its manufacturing value-added rate to 30% by 2030 (up from 25%). This strategy does not deviate from I-Korea 4.0; rather, it builds upon it. The government will also support the development of 2,000 "AI factories" by 2030, building on the 30,000 smart factories outlined in I-Korea 4.0. This process will include establishing smart factory data centers and revising existing laws for the manufacturing sector to improve the business environment. Additionally, the Ministry of Industry will lead the drafting of a national AI manufacturing strategy within 2019.

5.2 AI R&D and Talent

South Korean policymakers and AI practitioners generally consider their AI R&D sector underdeveloped. A common refrain in policy documents and conversations with Korean AI experts is concern about falling behind or needing to catch up with the rest of the world. The lack of AI talent represents a major policy concern for Korean decision-makers and the industry, prompting the introduction of a national AI R&D strategy.

PCFIR launched the AI R&D strategy in May 2018, investing KRW 2.2 trillion (CAD 2.66 billion) before 2022 to secure world-class AI technologies, cultivate AI talent, and become one of the top four AI nations. Specific initiatives include: government-funded public sector AI projects (defense, healthcare, public safety) modeled after DARPA' s Grand Challenge; launching six new AI graduate programs and five AI research institutions to train 5,000 new AI specialists by 2022; creating an AI center to provide data relevant to local entrepreneurs and industries; and developing ethical guidelines for AI.

Resource disparities between conglomerates and small-to-medium enterprises (SMEs) compound these challenges. Startups and SMEs currently compete with multinational corporations (e.g., Samsung, LG) that source talent not only internally but also from around the world. Korean conglomerates have begun looking abroad to attract top global AI talent. Naver (often called Korea' s Google) purchased XRCE in France to access 80 top European AI experts. These conglomerates are also active in Canada: Samsung established an AI lab in Montreal in partnership with MILA (one of three AI clusters) at the University of Montreal after opening its first North American AI center in September 2017, and opened a second center in Toronto in May 2018. LG established an AI research lab in partnership with the University of Toronto (home to the Vector Institute, another AI cluster) .

5.3 AI Ethics, Legal, and Social Issues

Ethics, legal, and social issues have been integrated into South Korea' s Fourth Industrial Revolution policy blueprint. PCFIR's goal of using cutting-edge technology to promote economic growth and solve social problems clearly indicates that ethical, legal, and social issues are central concerns for Korean legislators. I-Korea 4.0 specifically points to policies integrating AI into healthcare, welfare, environment, and public safety. One of PCFIR' s three subcommittees is the Social Institutions Subcommittee, tasked with innovating employment and welfare policies, implementing educational reforms to promote creativity, and reforming laws and policies to address practical social problems as well as international and community relations.

In terms of ethics, the Ministry of ICT collaborated with the National Information Society Agency to release the *Ethical Guidelines for an Intelligent Society* (I-Korea 4.0) in June 2018. The guidelines are based on the Seoul Accord principles (Openness, Accountability, Controllability, and Transparency) .

One of PCFIR' s signature events is the Regulatory and Institutional Reform Hackathon, held 13 times since PCFIR' s establishment . Modeled after intensive, sprint-like work sessions among software engineers in tech fields, these hackathons bring together approximately 30 stakeholders from government, civil society, and the private sector for two-day workshops. Participants discuss multistakeholder issues such as data and privacy rights, data clouds, or the drone industry in an open manner facilitated by professional moderators. Participants focus on reaching consensus to present policy recommendations to PCFIR, relevant ministries, and the National Assembly, with their recommendation process reported quarterly to all participants. Though not all discussions involve AI, these hackathons provide a model for bringing relevant stakeholders together to influence decision-making in an agile, democratic manner.

5.4 Conclusion

South Korea' s rapid economic development following the Korean War, known as the Miracle on the Han River, became a benchmark for developing countries worldwide. This miracle was achieved through economic policy featuring close cooperation between government and private sector entities, taking a whole-nation approach to economic and social development. South Korea' s approach to AI and the broader Fourth Industrial Revolution reflects this 20th-century catch-up mentality. Like China and Japan, South Korea views AI as a primary driver of the next-generation economy and thus treats it as a national project closely linked to global competitiveness. Consequently, the Korean government has taken steps to ensure Korea does not fall behind other nations, explicitly targeting becoming one of the world' s top four AI powers by 2022.

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6. Analysis

This review of AI policies in China, Japan, and South Korea reveals that all three governments view AI as a transformative technology critical to their economic and social development. They see the state as a key actor in realizing this AI vision and have therefore developed comprehensive strategies that extend beyond R&D and talent development to consider AI integration into their economies and address related ELSI concerns.

Consequently, they have established dedicated AI agencies—China's AI Program Promotion Office under the Ministry of Science and Technology, Japan' s AI Technology Strategy Committee, and South Korea' s Presidential Committee on the Fourth Industrial Revolution—to coordinate AI-related work across different ministries and drive coherent, long-term, national-scale action plans. These AI strategies create a framework where a series of AI development objectives are outlined, and the private sector achieves these goals with state policy support.

These government agencies and programs also demonstrate awareness of the increased ELSI concerns arising from AI deployment. China' s *Next Generation Artificial Intelligence Development Plan* and South Korea' s I-Korea 4.0 focus on adjusting social and legal systems and adequately preparing citizens for the long term. Similarly, Japan' s Advisory Council provides Cabinet recommendations on ELSI through its report on AI and Human Society. All three governments show awareness of AI' s potential dangers and willingness to engage with ELSI issues from a long-term perspective.

AI development in all three countries is treated as a national project. Each nation' s strategy aligns with developmental state theory, which explains East Asian countries' past rapid economic growth success through nationalist rhetoric about falling behind other nations, thereby justifying extensive state involvement in economic planning.

Finally, regarding values, it is important to understand that substantive discus-

sions on AI ethics must move beyond broad statements contained in respective ethical guidelines. shows that ethical guidelines from China, Japan, South Korea, and Canada do not differ significantly. These principles hold that AI must serve some greater good and must be used safely, transparently, and responsibly. The broader differences lie in the specific social, economic, political, and cultural contexts in which AI systems are deployed.

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About the Authors:
Wang Baohua (1963–), male, from Ruzhou, Henan, is a professor whose research

focuses on public opinion governance and big data applications. Zhang Jie (1964–), female, from Harbin, Heilongjiang, is a professor specializing in higher education policy and management. He Xinlei (1989–), female, from Fuqing, Fujian, is an associate editor whose research focuses on media ecology and development. Zheng Bo (1976–), male, from Xinyang, Henan, is an associate researcher specializing in public opinion research.

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Note: Figure translations are in progress. See original paper for figures.