SESEC V Report

Standardization at China Artificial Intelligence Industry Alliance (AIIA)

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Seconded European Standardization Expert in China
(SESEC)

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By SESEC, 26th November 2024

I. Overview of AIIA

China Artificial Intelligence Industry Alliance (AIIA) was established in 2017 under the guidance of the Ministry of Industry and Information Technology (MIIT), the National Development and Reform Commission (NDRC), the Ministry of Science and Technology (MOST), and the Cyberspace Administration of China (CAC). Its mission is to build a globally influential public service platform for AI industry development, act as a driver and practitioner of AI-enabled digital economy, and support government decision-making, technological innovation, application promotion, ecosystem cultivation, and international cooperation.

The secretariat of AIIA is hosted by the China Academy of Information and Communications Technology (CAICT). Currently, AIIA comprises 1,102 domestic and international members.

AIIA has established 36 working groups (WGs) and committees, categorized as follows:

1. 11 Technical WGs: Covering areas such as assessment, technology and industry, standardization and promotion, cyberspace technology, safety, AI and robotics industry integration, foundational platforms, chips, Model-as-a-Service (MaaS), basic software and hardware, and ecosystems.
2. 15 Industry WGs: Focused on sectors including smart cities, medicine, transportation, finance, automotive, media, petrochemicals, security, science, energy, e-government, cultural tourism, biomedicine, auditing applications, and intelligent software engineering.
3. 10 Special WGs: Dedicated to topics such as policies and regulations, academia and intellectual property, integration of production, education, and research, popularization of science and social responsibility, international exchange, international exchange, open source and openness, data, security governance, competitions, and technology ethics.

II. Current Work Focuses

AIIA is currently focusing on three key directions:

1. Conducting research on large AI models to promote collaborative innovation and development across the entire AI industry chain.
2. Advancing the integration of AI across various fields to empower the new wave of industrialization comprehensively.
3. Strengthening ethical governance to guide industry self-discipline and ensure the safe and trustworthy development of the AI industry.

Specifically:

1. **In AI Technology Research**, AIIA has achieved progress in three areas: the "Fangsheng" large model benchmarking system, the AI SHPerf artificial intelligence software and hardware benchmark, and embodied intelligence.

a) "Fangsheng" Large Model Benchmarking System:

- Published international, sector, and association standards for large model benchmarking, as well as China's first Research Report on the Benchmarking System for Large Models.
- Continually expanded datasets to meet testing needs in complex comprehension and multimodality. The dynamic testing database now includes 260 datasets, comprising 5.5 million test data entries.
- Built a resource pool of over 60 open and closed-source models, and developed a competition platform to enhance subjective model testing capabilities.
- Established a model capability detection and demonstration platform, enabling multidimensional analysis and visualization of test results.

B) AI SHPerf Software and Hardware Benchmark:

- AIIA has released the AI SHPerf Tool V1.0 and launched the AI SHPerf foundational software and hardware platform.
- Established the AI SHPerf foundational software and hardware working group to conduct technical research and develop standards.
- Initiated the development of over 10 standards on compatibility, system capabilities, and collaborative technologies, with 7 drafts already completed.

C) Embodied Intelligence:

- Released the *2024 Panorama of Embodied Intelligence 1.0* and the *2024 Embodied Intelligence Development Report.*
- Published the first open-source embodied operating System (EOS).
- Built a standardization framework for embodied intelligence and initiated the development of corresponding standards.

2. **In AI Applications,** AIIA has achieved research outcomes in two fields: AI for Science (AI4S) and AI for Software Engineering (AI4SE).

a) AI4S:

- Published the report *Artificial Intelligence for Research and Development (AI4R&D) – A New AI-Driven R&D Paradigm.*
- Established the AI4S standardization framework and initiated standards development under the National Smart Computing Standardization Working Group (SAC/SWG32) and the China Communications Standards Association (CCSA). Standard projects on materials, chemicals, and research assistants have been launched.
- Formed an AI4S working group comprising over 60 enterprises. It is facilitating demand-supply matchmaking between industry players and large model enterprises in areas such as "AI + Marine Science" and "AI + New Materials."
- Assisting government departments in top-level design and policy research.

b) AI4SE:

- Published a series of association standards of *Technical and Application Requirements for Intelligent Software Engineering.* Its code large model standard proposal *Technical Requirements and Evaluation Methods for AI-based Code Generation* has been approved by ITU-T SG16, and the intelligent development tool standard has been established under IEEE SDSC.
- Released the Practical *Guidelines for Intelligent Software Development*.
- Developed evaluation datasets for code large models and intelligent development and completed assessments of related products.

- Organized activities such as case collection and thematic salons to promote ecosystem building.

3. **In AI Governance,** AIIA explores new approaches through international cooperation, industry practices, and large-scale risk governance.

a) International Cooperation:

AIIA collaborates with AI safety research institutes in Singapore and the UK to promote trusted AI, risk management, and mutual recognition of benchmarking.

b) Industry Practices:

AIIA refines its AI risk management framework, assisting operators in piloting full-stack AI safety systems. Additionally, AIIA is developing standards for AI risk management, ethical requirements, and trusted R&D to support industrial applications.

c) Large-Scale Risk Governance:

AIIA provides compliance consultation for generative AI services and develops automated evaluation capabilities to enhance large-scale risk governance.

In addition, in AI safety, AIIA ensures safe and trustworthy AI development by conducting Q3 large model benchmark tests (AI Safety Benchmark), establishing an AI Safety Emergency Response Platform, and researching safety standards for intelligent agents.

4. International Engagement:

Internationally, AIIA is actively expanding global influence, specifically

a) Export standards projects to ITU-T

In June 2024, MIIT, CAC, NDRC, and the Standardization Administration of China (SAC) jointly issued the *Guidelines for the Comprehensive Standardization System for the National AI Industry (2024 Edition).* The guidelines propose participating in the development of more than 20 international standards by 2026.

Against this backdrop, from April 15 to 26, 2024, the ITU-T SG16 held a plenary meeting in Rennes, France. Six new project proposals led by CAICT were approved, including:

- *ITU-T F.FDM-AC-BK Assessment criteria for foundation models: Benchmark*
- *ITU-T F.TE-RAG Requirements and evaluation methods for retrieval augmented generation of large scale pre-trained model*
- *ITU-T F.TE-AIA Requirements and evaluation methods of artificial intelligence agents based on large scale pre-trained model*
- *ITU-T F.TE-CG Technical requirements and evaluation methods of AI based code generation in multimedia applications*
- *ITU-T F.AICP-RM Technical specification for artificial intelligence cloud platform: Resource management*
- *ITU-T F.DPLM-REM Requirements and evaluation methods of data provision capability for large models in multimedia applications*

b) Participation in ITU AI for Good Initiative:

AIIA actively participates in and implements the ITU AI for Good initiative. Activities include:

- *Organizing the Innovation for Impact: AI for Good case collection event.*

- *Attending the Innovation for Impact: AI Benefiting Humanity, Advancing SDGs seminar in Geneva.*
- *Inviting A*I for Good representatives to the World AI Conference (WAIC) in China.

c) China-BRICS AI Cooperation:

In July 2024, the China-BRICS AI Development and Cooperation Center was established at CAICT. The center aims to:

- Strengthen information exchange and technical collaboration among BRICS *countries.*
- *Deepen industrial alignment and project cooperation.*
- *Promote AI applications and capacity building.*
- *Foster* governance cooperation and standardization.

AIIA also organized and participated in events such as:

- The BRICS *New Industrial Revolution Partnership AI Seminar.*
- *The China-Brazil High-Level Coordination and Cooperation Committee Seminar on Industry, Information* Technology, and Communications.

III. Future Development

1. Establishment of New Working Groups:

AIIA is planning to establish working groups for AI-native technologies, agricultural and telecommunications industry applications, and a special working group focused on talent development.

2. Technical Development:

In the technical field, AIIA is primarily engaged in the following projects:

Working Group / Committee	Research Reports	Technical Specifications
Evaluation Working Group	*Research Report on Large Model Evaluation System for Industry Applications*	*Framework and General Requirements for Multimodal Large Model Benchmark Testing,* *Framework and General Requirements for Speech Large Model Benchmark Testing,* *"Fangsheng" Large Model Benchmark Testing Results and Dataset*
AI Infra Working Group	*Edge AI Research Report,* *AI Framework Research Report*	*Artificial Intelligence Middleware Application Maturity Evaluation Method,* *General Requirements for AI Development Platform: Part 3 - Performance Requirements,* *Technical Requirements and Testing Methods for Graph Machine Learning Platforms,* *Scenario-Specific Large Model Inference*

		Technical Requirements: Intelligent Search, *Scenario-Specific Large Model Inference Technical Requirements: Intelligent Recommendation*
Basic Hardware & Software and Ecosystem Working Group		*Technical Requirements for Large Model Training and Inference Frameworks for Smart Computing Clusters,* *Technical Requirements for Large Model Inference Acceleration Frameworks for Edge Devices,* *System Capability Requirements for Heterogeneous Interconnected Clusters for Large Models,* *Adaptation Interface Technical Requirements for AI Hardware*
Data Committee	*AI Data Service Industry Supply Chain Map,* *Research Report on the Development of Data Annotation Services*	*General Maturity Model for Data Production and Annotation Services for AI,* *General Evaluation Method for AI Datasets Quality: General Requirements*
Embodied Intelligence Working Group	*Embodied Intelligence Panorama 2.0*	*Key Technical Requirements and Evaluation Methods for Embodied Intelligence: Part 1 - Basic Models,* *Embodied Intelligence Technology and Applications for Industries: Part 1 - Educational Embodied Intelligence Robots*

3. Industry Application

In the application field, AIIA is primarily engaged in the following projects:

Working Group / Committee	Research Reports	Technical Specifications
AI4SE Working Group	*Intelligent Development Implementation Guidelines*	*Technical and Application Requirements for Intelligent Software Engineering* (Part 2: Intelligent Development; Part 3: Testing Large Models; Part 4: Intelligent Testing). *Code Large Model Testing Dataset Construction*
AI4S Working Group		*Technical Requirements for AI-Based Research Literature Assistant,*

		Scenario-Based Intelligent Agent Technical Requirements: Materials Research, *Research Intelligence Development Platform Technical Requirements,* *Research Intelligence Computing Power Platform Technical Requirements*
Financial Industry Advancement Group		*Intelligent Agent Technical Requirements and Evaluation Methodology: Investment Research Intelligent Agents,* Series of Standards *of AI Technology and Application Evaluation in the Financial Industry*
Automotive Industry Advancement Group	*Research Report on the Large Model Implementation Roadmap for the Automotive Industry*	*Technical Requirements and Evaluation Methodology for Intelligent Cabin AI Applications,* *Technical Requirements and Evaluation Methodology for Automotive Intelligent Agents*
Audit Application Advancement Group	*Research Report on AI in Audit Applications*	*Intelligent Audit Tool Product Map 2.0*
Government Applications Working Group		*Government AI Infrastructure Construction and Operational Standards,* *AI-based Government Service Large Model Data Resource Development Capability Evaluation Model*
Energy Industry Advancement Group	*"AI+Energy" Typical Application Case Collection*	Series of *"AI+Energy"* Standards, *Master Data Intelligent Audit Platform Evaluation Standards,* *Energy Supply Chain Review Platform Architecture Standards,* *Large Model Capability Requirements and Evaluation Methodology for Power Generation*
Smart Tourism Advancement Group	*Smart Tourism Panorama Research Report*	*Smart Tourism Large Model Middleware Basic Capability Indicator Requirements and Evaluation Methodology,* *Technical Requirements and Evaluation Methodology for LBE-based VR Immersive Exploration Space Solutions*

4. AI Governance

In the areas of security governance, technology ethics, policies and regulations, and intellectual property, AIIA's main research projects are as follows.

Working Group / Committee	Research Reports	Technical Specifications
Security Governance Committee	*Research Report on Best Practices for AI Security,* *AI-Enabled Cybersecurity Practice Cases*	*Security Capability Requirements and Evaluation Standards for Intelligent Agent Platforms,* *Security Capability Requirements and Evaluation Methodology for Financial Large Models,* *Large Model Code Security Control Indicators and Evaluation Methods*
Technology Ethics Working Group	*Research Report on AI Technology Ethics Practices*	*Technology Ethics Management Practice Guide for Generative AI Products*
Policy and Regulation Working Group	*General AI Governance and Compliance Guidelines*	
Academic and Intellectual Property Working Group	*Intellectual Property Achievements in Large Model Development*	

5. **International Cooperation. -** AIIA is actively expanding its International Cooperation Working Group (WG) and will support the following activities in the future:

- ITU AI for Good Summit: Scheduled for July 2025 in Geneva.
- ITU AI for Good China Regional Forum: Planned for 2025, with the location to be determined.
- BRICS New Industrial Revolution Partnership Forum – AI Sub-Forum: Scheduled for September 2025 in Xiamen.
- China-BRICS AI Development and Cooperation Center: Plans to host a high-level seminar and training sessions in 2025.

In addition, AIIA plans to offer comprehensive one-stop services for Chinese enterprises expanding globally, active participation in international standards development, organize training sessions on global standards, and build stronger connections with both domestic and international industry associations and alliances to explore potential areas of cooperation and collaboration mechanisms.

IV. Summary

AIIA is currently one of the most influential standardization organizations in China's AI sector, with its work largely reflecting the current state of AI standards development in the country. The organization's extensive and proactive standardization efforts highlight its ambition to become a global leader in AI technical standards. Furthermore, AIIA is actively seeking to export its AI standards through platforms such as the ITU and BRICS, aiming to shape the future of global standardization leadership.

These initiatives pose a potential challenge to Europe's aspirations for global AI standards leadership. It is recommended that European stakeholders enhance dialogue, communication, and even participation with AIIA. This would enable European actors to stay informed about the latest developments in Chinese standards and encourage AIIA to draw on Europe's advanced AI governance principles during its standards development process, thereby reducing potential discrepancies between future standards frameworks.

Introduction of SESEC Project

The Seconded European Standardization Expert in China (SESEC) is a visibility project co-financed by the European Commission (EC), the European Free Trade Association (EFTA) secretariat and the three European Standardization organizations (CEN, CENELEC and ETSI). Since 2006, there has been four SESEC projects in China, SESEC I (2006-2009). SESEC II (2009- 2012), SESEC III (2014-2017), SESEC IV (2018- 2022) and SESEC V (2022-2025). Dr. Betty XU is nominated as the SESEC expert and will spend the next 36 months on promoting EU-China standardization information exchange and EU-China standardization cooperation.

The SESEC project supports the strategic objectives of the European Union, EFTA and the European Standardization organizations (ESOs). The purpose of SESEC project is to:

- **Promote European and international standards in China;**
- **Improve contacts with different levels of the Chinese administration, industry and standardization bodies;**
- **Improve the visibility and understanding of the European Standardization System (ESS) in China;**
- **Gather regulatory and standardization intelligence.**

The following areas have been identified as sectoral project priorities by the SESEC project partners: Internet of Things (IoT) & Machine-to-Machine(M2M) communication, communication networks & services, cybersecurity & digital identity, Smart Cities (including transport, power grids & metering), electrical & electronic products, general product safety, medical devices, cosmetics, energy management & environmental protection (including eco-design & labeling, as well as environmental performance of buildings).