

Party A: Samara State Technical University  
Party B: National Engineering Research Center for Manufacturing Technology of Ceramic Matrix Composites  
Party C: MSEA International Institute for Materials Genome

**Samara State Technical University**  
**National Engineering Research Center for Manufacturing**  
**Technology of Ceramic Matrix Composites**  
**MSEA International Institute for Materials Genome**

**Three Parties Strategic Cooperation**  
**Framework Agreement**

July, 2018

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Scientific and technological innovation is the global development trend. In view of Party A's advantages in the fields of technology and talent, Party B's advantages in the fields of engineering research and verification, research and development in industrial key generic technology, and industrial cultivation and promotion, Party C's advantages in the fields of knowledge frontier and technology convergence, to comply with the megatrends of innovation development and enhance the innovation ability, after friendly negotiation, Party A, Party B and Party C decide to establish strategic cooperation partnership, promoting the cooperation between the three parties in innovation and science and technology, realizing the integrating interaction and mutual development in the transformation of science and technology innovation and achievements in universities, scientific and technological innovation bases and institutes.

Party A, Samara State Technical University, founded in 1914 and located in Samara, Russia, is the most prestigious teaching institution in the area. There is an abundant faculty in Samara State Technical University, with a total of 1394 teachers, including 181 doctors and professors, 744 vice-doctors and associate professors, 3 academicians from Russian National Academy of Sciences, providing teaching plans of more than 50 professions and directions, providing a number of different levels degrees: bachelor, expert, master and vice-doctors, doctors, etc. The core disciplines include energy, oil and gas, chemistry and petrochemistry, mechanical engineering, transportation, food production, defense industry, information technology, mechanical and automotive engineering, engineering systems administration and automation, material science and metallurgy, biotechnology, industrial ecology, economics, architecture, civil engineering and design so on. It is a large science center for basic and applied research, publishing monographs and scientific papers, being well known in the fields of petrochemistry, industrial ecology, food production and architecture. In 2016, Samara State Technical University was recognized as one of 11 Russian regional flagship universities.

Party B, National Engineering Research Center for Manufacturing Technology of Ceramic Matrix Composites, is the only national engineering research center in ceramic matrix composites field approved by National Development and Reform Commission of the People's Republic of China in 2013. It is a national platform for research and development and industrialization innovation of ceramic matrix composites manufacturing technology. It is jointly established by the lead of Xi'an Golden Mountain Ceramic Composites, Northwestern Polytechnical University, China Guodian Group Science and Technology Research Institute Co., Ltd., Shaanxi Auto Refco Group Ltd. and AVIC Xi'an Aviation Brake Technology Co., Ltd. Taking the state and industry's strategic needs as the starting point, it researches and develops industrial key generic technology, implementing engineering research and verification, building the "bridge" between industry and scientific research, accelerating the transformation from scientific research achievements to actual productivity, promoting to improve the industrial technology and core competitive ability, thus serving economic construction and social development. The development and engineering of ceramic matrix composites manufacturing technology and equipment should be emphasized, the technical standard formulation and industrialization demonstration should be promoted, and the international cooperation and exchange should be developed. Then high-level talents in engineering technology research and management for the industry can be cultivated, the technology innovation system of production, learning and research in ceramic matrix composite materials being constructed, thus the core competitiveness and innovation ability in ceramic matrix composites manufacturing being promoted.

Party C, MSEA International Institute for Materials Genome, is established in the TsingHua University Technology Incubator, the Emerging Industries Demonstrative Region, Gu'an, Hebei Province on August 15, 2017. It is committed to developing the innovative design method of structural / functional materials starting from chemical elements and advanced manufacture techniques with international influence, then a seamless transition is achieved which is from micro exploration to macro regulation. The industrialization application of new materials is accelerated by developing high-throughput data analysis models and software. The material innovation and industrial platforms are established with meeting the needs of national strategic emerging industries. The global knowledge integration is promoted, inspiring innovative ideas, thus internationally competitive technological elites and leading entrepreneurs being trained.

Party A, Party B and Party C carry out strategic cooperation in cross discipline, scientific research, technological innovation, achievements transformation and industrial incubation.

### **1 Cooperative purpose**

Article (1) The three parties should give full play to their advantages, together setting up the joint materials innovation, improving the efficiency of output and transformation in scientific and technological achievements.

### **2 Cooperative content**

Article (2) Via three parties cooperation of production, learning and research, the cross discipline research, the research and development in industry foundation and industrial key generic technology, achievements industrialization and talents training are carried out. Then China-Russia Joint Innovation Center for Advanced Materials is set up to cultivate a batch of industrial clusters and enterprise groups with core competitiveness. There is Modeling and simulation lab for advanced materials, Intelligent manufacturing lab for advanced materials, Application technology lab for advanced materials and other departments in Joint Innovation Center.

Article (3) Joint Innovation Center aims at the strategic needs of academic frontier and industry development. Via the research of materials genome, centering on the development of integrated computing, materials design, performance prediction, high-throughput material preparation and characterization, the materials property database is built. Joint Innovation Center uses large data analysis methods to explore the "structure-activity relationship" of advanced materials, providing an important technical foundation for material selection and optimization design, thus forming a whole research chain of material genome discipline system from database utilization, integrated calculation, high-throughput preparation and characterization to service failure. Then "design based on requirements" and the progress of whole digital manufacturing via theoretical calculation and simulation in advanced materials can be achieved.

### **3 Cooperation mode**

Article (4) Joint Innovation Center is jointly managed and operated by the three parties under the guidance of this agreement, not being a separate legal entity.

Article (5) Joint Innovation Center's daily management and operation are together undertaken by the three parties.

Article (6) Each of the three parties sets up an executive director, jointly establishing an office to manage the daily operations of Joint Innovation Center, establishing a joint conference system, studying important matters in the process of coordination and cooperation, coordinating other matters agreed upon by the joint conference, managing and reviewing the daily operations of Joint Innovation Center , which include personnel arrangement, system construction, fund use, academic exchange, project research, project management and effect evaluation, etc.

Article (7) Joint Innovation Center sets up the academic committee, which is responsible for guiding the research design, objective and direction, hosting major academic activities in Joint



Innovation Center. The academic committee will annually hold scheduled meetings to consider the annual work status and plan the next year's annual working program.

Article (8) The special account, established by Joint Innovation Center and attached to Party C , is used for academic committee's activities and daily management operation expenses, thus guaranteeing Joint Innovation Center' s normal running.

Article (9) Joint Innovation Center annually holds major international conferences in this field 1~2 times, thus promoting academic exchanges and cooperation among the three parties (international cooperation and exchange projects including 2-5 postgraduates, 1~3 doctors, and 1~3 post doctors). At least 3 papers should be annually published in internationally celebrated journals, and at least 3 academic speeches should be carried out in international academic conferences.

Article (10) Joint Innovation Center, guided by major strategic needs and market applications, should jointly declare and complete major cooperation projects and research and development in programs at home and abroad.

#### **4 Investment and liability**

Article (11) The necessary funds, personnel, software, hardware and fields are jointly invested by the three parties, providing corresponding facilities to achieve the goals defined in this agreement.

Article (12) The three parties jointly provide all aspects of support and services to Joint Innovation Center, including the application of various research funds, the acquisition of government research and development funds, the direct investment to enterprises, and the combination of venture capital, etc. The three parties support the transformation of scientific and technological achievements, carrying out technical consultation and incubation, including training, research and development delegations, technical licensing, joint research and development, industrialization and so on.

Article (13) During the first operational cycle (three years) of Joint Innovation Center, Party C makes an one-time investment of 500,000 yuan in the form of project cooperation. In three years, if Joint Innovation Center continues being operated, the operation expense will be mainly derived from the funds of science research projects undertaken by Joint Innovation Center.

Article (14) In government-sponsored programs applied together, if supporting funds are needed, separate agreement can be signed.

Article (15) Joint Innovation Center hangs out its shingle in the three parties, the office being attached to Party C, Modeling and simulation lab for advanced materials being attached to Party A, Intelligent manufacturing lab for advanced materials being attached to Party C, Application technology lab for advanced materials being attached to Party B.

Article (16) Based on the project research direction, Joint Innovation Center implements the opening and flowing personnel mechanism. The main staff members are selected from the three parties in accordance with the needs of the project research direction, and the project leader who is responsible for the project implementation is confirmed in accordance with requirements.

Article (17) Party C annually invests certain funds to set up the open fund for Joint Innovation Center, thus the academic vitality of Joint Innovation Center to be promoted, the level of scientific research and academic influence to be improved, and the interdisciplinary character of Joint Innovation Center to be given full play. In accordance with the development trend of modeling, simulation, intelligent manufacturing and application technology in advanced materials, and the technical problems encountered in the research, the fund guide recommendations are proposed by Joint Innovation Center and issued to the three parties after academic committee's discussion. The number of funding, executive years and the funds limit are confirmed according to actual needs by the academic committee of Joint Innovation Center.

#### **5 Intellectual property**

Article (18) The three parties pledge that their intellectual property for cooperative development of the project is lawful, valid and self-owned, guaranteeing not to infringe any third party's rights.

Article (19) The use and ownership of intellectual property: the research achievements produced from the three parties' cooperation in Joint Innovation Center (patents, creativity, works, know-how and all other technological achievements, and related intellectual property, etc.) are jointly owned by the three parties. The three parties' names shall be included in the publication of papers, publications, and related awards, patents, research projects and funds. The distribution of the profits arising therefrom shall be carried out according to negotiation or fair contribution size.

Article (20) The usufruct of research achievements produced from the three parties' cooperation shall be enjoyed together. Without the consent of the three parties, license using cannot be provided to any party apart from contracting parties.

Article (21) Without the written consent of the three parties, either party shall not separately transfer the joint research findings produced jointly by the three parties.

## **6 Confidentiality obligations**

Article (22) During the cooperation in Joint Innovation Center, the three parties shall not involve in state secrets. The three parties shall limit the knowing scope of relevant technology and business secrets and information that one party does not wish to disclose, bearing confidentiality obligations. The three parties shall safely keep the obtained information, and shall not copy it without authorization, and prevent information leakage caused by mismanagement. In addition to the achievements' carriers arising from cooperation, all other technical secrets' carriers of the other party acquired during the cooperation must be returned to the other party or destroyed.

Article (23) Either party violating the confidentiality clause, which causes the disclosure of the other party's secret information, shall bear the legal liability arising therefrom, and shall compensate for the loss caused to the other party.

Article (24) The confidentiality obligations are valid in the duration of the agreement, and will be valid **ten years** after the termination of this agreement.

## **7 General terms**

Article (25) The cooperation of Joint Innovation Center shall come into force on the date of the signature and seal of this agreement, with a **3-year** validity term. When the agreement expires, if the three parties do not propose a termination agreement, the agreement will automatically be postponed for **3 years**.

Article (26) In the case confirmed by the three parties that Joint Innovation Center cannot continue meeting this agreement's cooperative targets, either party may terminate the cooperation in Joint Innovation Center, but must notify the other party in written notice **1 month** before the termination. The other party shall reply to the notice of cooperation termination within **1 month** after receiving the written notice. If no reply is made during the aforesaid time limit, it is regarded as the default cooperation termination, and the expenses and property shall be divided in accordance with the relevant provisions of this agreement.

Article (27) Before the cooperation termination, the three parties are obliged to run the project which is being executed to complete.

Article (28) If the agreement is ended or terminated in advance, and there is a surplus in daily operation expenses, the capital contribution should be returned to the investor, the average allocation produced by the three parties, and the surplus of the supporting funds of the project should be returned to the parties in accordance with the proportion of the three parties. In addition, matters involving extension of research and development projects shall be separately negotiated by the three parties.

Article (29) This agreement does not authorize either party to use the name, corporate name, trademark or other logos of the other party in advertisement or publication (including any related abbreviations, shortenings or imitation).



Article (30) Either party shall not assign or transfer the rights or obligations under this agreement without prior written consent from the other party. Any such practice is null and void.

Article (31) If there are invalid, illegal or unenforceable clauses in this agreement, the validity, legality or enforceability of the other clauses will not be affected as long as the purpose of the three parties can be retained.

Article (32) When this agreement is terminated, any rights and obligations that should exist or continue in terms of its property, will still exist and continue. The three parties and its successors will be constrained until the completion of the obligations.

Article (33) Any amendment or revision of this agreement shall be in written form, and shall be signed by the authorized representatives of the three parties.

Article (34) This agreement is a complete and sole cooperation agreement on the subject among the three parties, and replaces any oral or written communication or understanding on the subject among the three parties before this agreement.

Article (35) This agreement is governed by the laws of the People's Republic of China and the Russian Federation and is interpreted in all respects.

Article (36) Any dispute arising from this agreement or related to this agreement shall be settled through friendly negotiation as far as possible. If no agreement is reached via negotiation, the parties concerned agree to submit an arbitration to Hebei Arbitration Commission and settle the dispute by arbitration in accordance with its valid arbitration rules at that time.

Article (37) A supplementary agreement shall be established for the remaining matters.

This agreement is made in six duplicate copies in English. The three parties each holds two copies. This agreement comes into effect upon the date of signature.

This page is a signature and seal page.

Party A: Samara State Technical University

Representative (Signature):

( Seal )



*Andrey A. Pimenov*  
Vice Rector for International Relations

Party B: National Engineering Research Center for Manufacturing Technology of Ceramic Matrix Composites

Representative (Signature):

( Seal )



*Linfeng Cheng*  
Director

Party C: MSEA International Institute for Materials Genome

Representative (Signature):

( Seal )



*Qingfeng Zeng*  
Executive President

Date: