REQUEST FOR PROPOSALS:
January 13, 2016

PERIOD OF PROPOSAL SUBMISSION ENDS:
February 2, 2016

ABOUT PROPOSALS. The U.S.-China Economic and Security Review Commission (hereafter "the Commission") invites submission of proposals to provide a one-time unclassified report on China's industrial and military robotics development.

ABOUT THE COMMISSION. The Commission was established by Congress in 2000 to monitor and report to Congress on the economic and national security dimensions of the United States' trade and economic ties with the People's Republic of China. Further details about the Commission are available on its website at: www.uscc.gov.

The Commission solicits this research pursuant to its Congressional mandate (contained in P.L. 113-291, Section 1259B), which states, "The Commission … shall investigate and report … on…"

> "(B) The qualitative and quantitative nature of the transfer of United States production activities to the People's Republic of China, including the relocation of manufacturing, advanced technology and intellectual property, and research and development facilities, the impact of such transfers on the national security of the United States (including the dependence of the national security industrial base of the United States on imports from China), the economic security of the United States, and employment in the United States, and the adequacy of United States export control laws in relation to the People's Republic of China."
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> "(D) Foreign investment …by the People's Republic of China in the United States, including an assessment of its economic and security implications, [and] the challenges to market access confronting potential United States investment in the People's Republic of China…"
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> "(E) The military plans, strategy and doctrine of the People's Republic of China … the interaction between the civilian and military leadership in the People's Republic of China … resources available to the People's Republic of China military (including the development and execution of budgets and the allocation of funds), force modernization objectives and trends for the People's Republic of China military, and the implications of such objectives and trends for the national security of the United States."

"(H) The drivers, nature, and implications of the growing economic, technological, … and security relations of the People's Republic of China's with other countries, regions, and international and regional entities (including multilateral organizations), including the relationship among the United States, Taiwan, and the People's Republic of China."

"(I) The compliance of the People's Republic of China with its commitments to the World Trade Organization, other multilateral commitments, bilateral agreements signed with the United States, commitments made to bilateral science and technology programs, and any other commitments and agreements strategic to the United States (including agreements on intellectual property rights and prison labor imports), and United States enforcement policies with respect to such agreements."

The report's key research requirements are:

1. **Assess trends in China's adoption of industrial robots, especially in the manufacturing industry.** What policies (e.g., Made in China 2025) promote these trends, and what factors (e.g., demographic changes) drive the policies behind those trends? What are the current and potential future impacts of China's adoption of industrial robots on the Chinese economy? In what Chinese industries has the adoption of robot technology been most prevalent? What are the main obstacles to increased factory automation in China, if any? What is the potential impact of China's workforce automation on U.S. and global labor markets? On U.S. firms with manufacturing plants in China? Compare and contrast China's adoption of industrial robots with that of its major manufacturing competitors. Assess any other economic implications for the United States of the adoption of industrial robots in China.

2. **Assess China's domestic industrial and service robot production and consumption.** How does the Chinese market for robots, including robots with industrial and service applications, compare with other global markets? What percent of industrial and service robots in the world are produced by China, respectively? How does China's robot production compare with other leading producers? What percent of robots produced by China are consumed domestically? How many Chinese companies produce industrial robots, and what are their market shares domestically and internationally? What share of components or technology used in Chinese industrial and service robots is sourced from the United States or other foreign countries? Identify key suppliers of components and chips. Are U.S. or other foreign investors engaged in production in China and, if so, what is the nature of their activities? Is market access for foreign investors conditioned on transfer of technology or localization of research and development (R&D) centers? Are foreign firms entering the market through joint ventures or other relationships with Chinese firms, and if so, what kinds of Chinese firms (SOEs, etc.)? How are China's professional service robots contributing to service sector development?

3. **Assess the state of robotics R&D in China, including nanorobotics R&D.** How does the state of robotics R&D in China compare with that of the United States and other leaders in robotics technology? What challenges does China face in enhancing its technological competitiveness in robotics R&D? To what extent do Chinese robotics technologies rely on U.S. or other imported software, components or other technology? Identify key suppliers of components and chips. What programming languages are being used in robotics R&D in China? To what extent are Chinese and foreign researchers partnering in China on robotics R&D? What are the leading research organizations, companies, universities, or other entities involved in robotics R&D in China? Are they linked to Chinese government entities or the People's Liberation Army (PLA)? On which applications and technologies is their research focused? Identify any affiliations they may have with U.S. companies or universities. Identify any research partnerships between Chinese entities with links to the PLA and foreign entities. Which developments in commercial robotics in China have the greatest potential for military application? Assess China's use of robotics in different domains (e.g., undersea, air, space).

4. **a. Assess the level of interest of the Chinese government and the PLA in the military applications of robotics.** What are the trends in the PLA's adoption of robotics? What potential military applications of robotics are Chinese researchers studying? What are the leading research organizations, companies, universities, or other entities involved in military robotics R&D in China? Evaluate which applications are the most likely to be adopted by the PLA. Identify any discussion by Chinese researchers of the potential challenges inherent to the military applications of robotics. What systems, if any, have been deployed?

   b. Assess Chinese robotics development strategies and their use in potentially countering present or future U.S. military capabilities and strategies (including the Department of Defense's "Third Offset"). In what areas is China already ahead of the United States in the use or development of robotics with military applications? What U.S. or other dual-use robotics technologies have likely been acquired by China through technology transfers or cyber penetrations? How can the United States maintain key advantages in the development and production of dual-use robotics technologies?

5. **Assess the state of artificial intelligence R&D in China.** What are the leading research organizations, companies, universities, or other entities involved in artificial intelligence R&D in China? On what applications and technologies is Chinese research focused? What potential commercial, lifestyle, and military applications of artificial intelligence are Chinese researchers studying? Evaluate which applications are the most likely to be adopted by the PLA. Identify any discussion by Chinese researchers of the potential problems of the military applications of artificial intelligence.

6. **Assess the state of R&D on unmanned aerial, maritime (both surface and underwater), and land systems in China.** Compare the most advanced Chinese

systems to the most advanced systems used by the United States. To what degree do Chinese unmanned systems demonstrate improvements over foreign systems and breakthroughs in unmanned technology? How much does Chinese R&D on these systems focus on autonomous operation? Describe Chinese efforts to turn existing manned military platforms into unmanned systems. Identify Chinese research that might yield innovative military applications and unique military capabilities for the PLA in the area of unmanned systems.

The report should include an **executive summary** of the report's key findings; a **brief overview of the sources and analytic methodology used for the report**; and a **brief explanation of the scope and limitations of the report**.

Additional Requirements:

1. Prior to the award of any contract, the contractor must be registered in the federal System for Award Management (SAM).

2. Once the Commission selects a contractor for this project, and a contract is signed, public notice of this will be made on the Commission's website.

3. The Commission's goal is to have a report prepared for review in a timely fashion. In ordinary circumstances, once the Commission selects a contractor and a contract is signed, a draft report must be submitted to the Commission for review no later than 120 days from the date the contract is signed. The Commission will then endeavor to provide comments and requests for adjustments within 30 days; subsequently, the final report must be submitted within 30 days of formal receipt of the Commission's comments. The Commission recognizes, under certain circumstances, a contractor may wish to have more time to prepare the first draft of the report under the contract. The contractor, in their contract proposal, should stipulate the time frame for submission of the draft report. It is to be understood; however, that time is of the essence in completing research contracts for the Commission.

4. As work on the report progresses, the Commission's Research Director shall act as the Commission's representative in monitoring the progress, quality, and responsiveness of the report to the major issues of concern identified in this Request for Proposals (RFP). The Research Director shall, on request to the contractor, be entitled to informal briefings on the status of the research work and to readings of the draft in progress.

5. The report shall be free of typographical errors and conform to the Chicago Manual of Style. Upon receipt of all drafts, the Commission will inspect the document for typographical errors and deviations from the Chicago Manual of Style guidelines. At the discretion of the Commission, if a draft contains excessive deficiencies, the Commission will return the draft to the contractor and request the contractor cure the draft of deficiencies within five (5) working days (not counting weekends and

Federal holidays). Upon resubmission of the draft by the contractor to the Commission, should deficiencies remain, the Commission, at its discretion, will submit the draft to its copyeditor for correction, the cost of which ($43.98 per hour) will be deducted from the final cost of the contract. The contract shall be subject to termination if the Commission deems that the work is of unsatisfactory quality.

6. At the Commission's discretion, the report procured via this RFP may be posted on the Commission's website.

7. Each organization or individual responding to this request must warrant they will perform this work solely for the Commission, and the resulting report will not be shared with other parties without the prior written consent of the Commission.

8. The Commission expects contractors to identify all personnel working on the contract, and that there will not be any delegation of responsibilities to other parties without prior written approval of the Commission.

9. After completion of the report, the Commission staff, in consultation with the contractor, will prepare a short summary of the research for posting on the Commission's website and other media. The Commission staff shall consult with the contractor in preparing said document.

10. At the discretion and request of the Commission, the contractor shall agree to participate in up for four (4) separate briefings, and up to one (1) public hearing, held by the Commission, of up to two (2) hours each in the Washington, DC area, supported by at least one (1) individual affiliated with the contractor identified as "key personnel." This could include, but not necessarily be limited to, briefing the content of the research to Commissioners and Commission staff, appearing as witnesses at a public hearing held by the Commission, and briefing the content of the research to Members of Congress and/or their staff. No additional remuneration will be provided to the contractor for these briefings or a hearing. The Commission will make a good faith effort to schedule briefings and a hearing at times that are subject to mutual agreement.

<u>Primary Selection Criteria:</u>

1. The Commission will determine which organization or individual responding to this request will be awarded the contract based on a comprehensive "best value" analysis of the proposals received, to include costs, technical value, and ability to complete the work satisfactorily and on time, and past performance with the Commission, if applicable.

2. The primary weighting criterion in selection shall be the assessed qualifications and ability of an organization or individual to address the fundamental research points enunciated above ("key research requirements").

3. The cost and amount of time necessary to complete the report will also be considered as criteria in the selection process.

Proposal submissions should include:

1. A statement of the applicant's relevant qualifications to satisfy the terms of this RFP, to include curricula vitae for personnel intended for work on the project.

2. Identification of the principal researchers who will be responsible for the preparation of the report. It is understood that the designation of the researchers is a critical element of the proposal, and any changes regarding which individuals will be involved in the report's preparation must be approved by the Commission in advance and in writing.

3. A description of the research methodology the applicant proposes to employ. In describing methodology, the submission should provide detailed descriptions of the sources and methods that will be used to research the report's topic and the extent to which Chinese language sources, if any, and other primary materials will be used.

4. A list of any entities for whom you have conducted research or provided consulting services in the past. The Commission understands you may be limited in providing such information by confidentiality agreements.

5. An estimate of the time the applicant will need to complete the required work.

6. The price the applicant will charge to the Commission to complete the work set forth in this RFP.

Organizations and individuals wishing to submit a proposal in response to this RFP must ensure that the response arrives at the location noted below by **5:30PM (EST)** on **February 2, 2016**, or it will not be accepted or considered.

Electronic submissions are acceptable.

Proposals, as well as inquiries or any other correspondence related to this matter, should be directed to:

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