**Proposal Requirements of Queqiao Communication, Navigation, and Remote Sensing System**

**-Single Mission**

1. Design Requirements:

Design and model a solution for a specific mission. Clearly define the functionality of the single mission, design the number of satellites, orbital solution, and outline the constellation network topology, functional architecture, spatial layout, international regulations, and international industrial alliance solutions. Provide information on each satellite's payload and major system indicators. After completing a single mission, it must achieve no less than two of the following goals:

1. Communication Capability: Innovatively design from the perspectives of telemetry and communication support, and analyze quantifiable indicators such as continuous communication capability and lunar communication coverage. Achieve long-duration continuous communication coverage and high communication coverage in the lunar South Pole. You may increase and optimize the indicators, as additional points may be awarded as appropriate.
2. Navigation Capability: Innovatively design from the perspectives of positioning, orbit determination, and navigation, and analyze quantifiable indicators such as positioning accuracy and timing accuracy. You may increase and optimize the indicators, as additional points may be awarded as appropriate.
3. Remote Sensing Capability: Innovatively design from the perspectives of space situational awareness and space environment monitoring, and set indicators independently. You may increase and optimize the indicators, as additional points may be awarded as appropriate.
4. Information Service Capability: Innovatively design from the perspectives of information processing and storage, and set indicators independently. You may increase and optimize the indicators, as additional points may be awarded as appropriate.
5. Submission Method and Requirements:

Each proposal shall include a design report (mandatory), demonstration video (optional), and model codes (optional). The scoring proportions are 50%, 30%, and 20%, respectively. All files should be placed in a folder named after the team. The folder should then be compressed into a .zip or .rar format. Specific requirements for each section are as follows:

1. **Design Report**

A complete design report compiled in PDF should be submitted. The report can focus on in-depth analysis of key technologies of interest, including but not limited to integrated orbit and networking design technology for Earth and Moon, deep space intelligent autonomous management technology, Moon navigation system and system design, establishment and traceability of lunar spatiotemporal benchmarks, complex heterogeneous constellation monitoring and evaluation, high-precision Earth-Moon space orbit determination, and other key technologies. Additional points will be considered for the difficulty and innovation of the topics. Also, adjustments to the report template can be made based on actual circumstances.

1. **Demonstration Video**

Present the processes of spacecraft orbit transfer and constellation networking in the form of animation or video. The video should be as concise and clear as possible, and additional points may be awarded if the video includes text or voiceover explanations.

1. **Model Codes and Documentation**

Provide spacecraft models, orbit models, simulation models, source code, etc., developed during the design process. The demonstration of the constellation-Earth/Moon coverage capability, communication capability, and navigation capability etc. are supported (provide corresponding documentation). Additional points may be awarded for using domestically-developed modeling software.