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

**-Overall Mission Planning**

1. Design Requirements:

For the medium to long-term plan, design 3-5 Queqiao Communication, Navigation, and Remote Sensing satellite missions, outlining the goals for each mission and developing a detailed plan. Upon completion of the missions, establish an interstellar internet communication and navigation system with capabilities in communication, navigation positioning, timing, information services, and scientific exploration. This system should serve lunar, Martian, and Venus exploration missions, supporting the construction of a deep space internet. After the system is established, it should meet 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. Other Expansion Capabilities (Optional): Considering the medium to long-term plan for the Queqiao Communication, Navigation, and Remote Sensing System proposal, use your imagination to innovatively design other expansion capabilities. Optimize functionalities and indicators as much as possible, as additional points may be awarded as appropriate.
6. 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 (mandatory)

The submission must include a comprehensive design report compiled in PDF. The report should outline the constellation communication plan, navigation plan, information service plan, and scientific exploration plan. Additionally, adjustments to the report template can be made based on actual circumstances.

1. Demonstration Video

Present the spacecraft's spatial layout, network topology, constellation networking processes, etc., through 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.