In-Space Additive Manufacturing (ISAM)

Please respond to the following:

Broad Approach:

1. Describe proposed technical approaches, including the concept of operations.
2. What issues and potential solutions exist for manufacturing in micro or reduced gravity?
3. What advantages exist for manufacturing in micro or reduced gravity?
4. What issues and potential solutions exist for manufacturing in vacuum or reduced atmospheric pressures?
5. What polymer based materials are amenable to additive manufacturing that exhibit space durability?
6. Can large scale manufacturing of solar power collection systems be fabricated in-space economically?
7. Describe preferred and alternate approaches to provide re-supply of stock materials and maintenance of ISAM systems (in-orbit and surface systems)?
8. What are spin-off terrestrial applications of ISAM developed technology.
9. What are the offerors' capabilities in the areas of:
    a. Processing/fabrication of structural components using additive manufacturing to yield mechanical properties superior to carbon fiber composites?
    b. Fabrication of electrical devices, components using 3-D manufacturing?
    c. Design and operation of ISAM systems?

Cost and Schedule Drivers:

1. What are requirements/specifications that are known to be major cost drivers?
2. What are the requirements/specifications that are known to be major schedule drivers?
3. What approaches should be considered to minimize cost and schedule impacts?

Contracts/RFP:

1. ROM price estimates, including required funding profile and schedule, for design, development, and manufacturing of a ground prototype ISAM system.
2. Provide a draft project management approach to ISAM technology development if funded by NASA and/or other government agencies.
3. Provide an intellectual property (IP) strategy for ISAM technology if funded by NASA.