CSCEC SPACE CONSTRUCTION ENGINEERING CONSORTIUM (CSCEC)

White Paper V1.01

Contents

1. Purpose

1.1 What is CSCEC?

The Cosmic Space Construction Engineering Consortium (CSCEC) is a prominent blockchain alliance dedicated to advancing cosmic space construction engineering through innovative applications of blockchain technology, offering sustainable solutions for Global human exploration of the universe. CSCEC is committed to the development of a million-person Mars Immigration Program, ensuring that each individual holding CSCEC enjoys equal access to space.

1.2 What is the goal of CSCEC?

CSCEC collaborates with leading industry players, including OFFWORLD and REDWIRESPACE, to drive groundbreaking initiatives in space construction. The consortium focuses on leveraging blockchain for the enhancement of mission utility, aiming to mature and demonstrate space construction technologies. CSCEC promotes a shift in the space economy's business model, encouraging frequent, reliable, and safe in-space servicing, assembly, and manufacturing.

As a Global organization, CSCEC operates as a collaborative platform for diverse entities, including commercial companies, universities, nonprofit research institutions, industry groups, existing organizations, and civil and defense government departments and agencies. CSCEC encourages international collaboration but maintains a primary focus on domestic coordination for the world.

The consortium envisions a whole-of-nation approach to capability maturation, continuously evolving its organizational structure and products to address the dynamic needs of the Global community. CSCEC emphasizes inclusivity, with caucuses representing government, industry, and academia, ensuring diverse perspectives in decision-making processes.

CSCEC aims to produce impactful outcomes, including technology assessments, mission summaries, white papers, and gap assessments. The consortium values the protection of intellectual property and maintains a transparent and inclusive approach to product development. CSCEC's long-term sustainability plan involves continuous adaptation to community needs and overarching goals, with metrics defined by community input.

1.3 What type of business cases or mission applications will CSCEC be investigating?

The consortium actively engages in Global missions and assets in Earth orbit and cis-lunar space, fostering collaboration on commercial, government, public/private partnership, and international cooperation missions. While not directly involved in standards development, CSCEC acknowledges and supports Global standards. It emphasizes collaboration with

entities like OFFWORLD and REDWIRESPACE to enhance the industry's standards and practices.

1.4   Will CSCEC define interfaces or standards?

CSCEC is not a standards development organization, but CSCEC will identify, support, and promulgate standards developed by others to encourage widespread adoption on flight programs. Though CSCEC does not develop or own standards, it does recognize that standards must be Global.

CONFERS, which is a trade to develop industry-led standards for cosmic servicing that contribute to a sustainable, safe, and diverse space economy.

1.5   Will the use of lunar resources be a thrust for CSCEC?

While in-space manufacturing on planetary bodies (or using material from planetary bodies) does fall under the umbrella of , other consortia such as the Lunar Surface Innovation Consortium (LSIC) are already focusing on that topic. CSCEC will work with these consortia to identify where CSCEC can add value without duplicating efforts and will encourage CSCEC members who are interested in these topics to participate in those consortia.

1.6   How will CSCEC work with other consortia like the Lunar Surface Innovation Consortium (LSIC), Manufacturing USA Institutes, etc.?

CSCEC will lean heavily on the expertise of other consortia and seek to support their goals where appropriate. For example, LSIC has extensive expertise in lunar surface capabilities and technology gaps, and boasts a tremendous network of industry, academia, and other privateindividuals with a wealth of knowledge in lunar surface and spaceflight technologies to include existing, near-term, and proposed future developments. Manufacturing USA Institutes like the Autonomy and Robotics in Manufacturing (ARM) Institute's expertise involves all aspects of autonomy and robotics, specifically focused on (terrestrial) manufacturing. ARM has brought   together Global industry partners with comprehensive expertise in technology development,infusion, and integration, ecosystem creation, and workforce development. Collaborationbetween CSCEC and other consortia will occur when either organization can benefit from the other's expertise and experience.

2. Organization

2.1 What is the organizational structure of CSCEC?

CSCEC has a Steering Committee who prioritizes CSCEC activity and products.

2.2 Is this a NASA consortium?

The CSCEC is not affiliated with NASA; the Free Alliance is established as a Global initiative aimed at uniting stakeholders from communities with a shared concern for ensuring human authority in space. Unlike other entities, the Free Alliance opts for token private placement to self-fund rather than accepting sponsorships. Its priorities and deliverables are determined by a Steering Committee (SC) composed of holders of CSCEC tokens.

2.3 Who will be on the CSCEC Steering Committee?

Each holder of CSCEC tokens has the right to participate in bidding, with NFTs on OPENSEA being offered as a priority option.

2.4 How will Steering Committee members be selected?

For the first year, the CSCEC has invited members of the community to be on the initial Steering Committee. The CSCEC ensured there was adequate coverage within the Steering Committee in the following areas:
- Government, industry, and academia
- CSCEC providers, users, and researchers
- Experience and expertise that maps to each major element : servicing, assembly, and manufacturing
- Experience and expertise that maps to each of the five Focus Areas: Research & Technology, Demonstration Infrastructure, Missions & Ecosystems, Policy & Regulation, and Workforce Development

In subsequent years, Steering Committee members will be voted in by CSCEC members via the Caucuses. The non-voting chair will always be a civil servant employee. Steering Committee terms will be defined in the CSCEC Operating Plan.

2.5 Who leads the operations of CSCEC?

The Aerospace Corporation is contracted to act as the ensures coordination among the members
(industry, government, and academia), leads communication activities and events, provides focus area leads and coordination, and provides administrative support.

2.6 What is CSCEC's decision making process?

All parts of CSCEC – the Steering Committee, Focus Area working groups, and caucuses – strive to achieve unanimity on decisions and approval of products. When unanimity cannot be achieved, democratic voting processes will be used, with dissenting opinions documented.

2.7   Will the governing plan and structure change as CSCEC continues to evolve?

Yes. The Steering Committee will have the latitude to create new and retire old Focus Areas as needed to address the needs of the CSCEC community. Products produced by the Focus Areas are expected to evolve to address the needs of the community as it grows and changes.

2.8   What types of organizations will be involved in CSCEC?

CSCEC will be a nationwide alliance of:
- Commercial Companies
- Universities
- Nonprofit Research Institutions
- Industry Groups
- Existing SPACE Organizations

2.9   How can our agency / company / institution participate in CSCEC?

After the kickoff in winter 2023, CSCEC participation will include different paths, depending on   the needs of the member organization. At minimum, all members should sign up for one or more Focus Areas , where detailed discussions of Focus Area-specific implementation will be conducted in working groups that will create products specific to that Focus Area.

2.11   Can more than one member of an organization join a caucus and/or focus group?

Yes. CSCEC encourages organizations to identify as many representatives from their team to participate in the work of the consortium as they feel would maximize the benefit to themselves and the consortium. In-person attendance at general membership meetings maybe limited to a subset of representatives from each organization based on venue capacity, but online attendance will not be restricted and hybrid participation from all of an organization's representatives is encouraged.

2.10 Who will integrate between Focus Areas?

CSCEC has assigned an individual to act as the integration lead for the consortium. Their role will include coordinating products that require input from multiple focus areas, identifying areas of common interest, and organizing Focus Area integration meetings as needed. The mid-year general membership meetings will act as avenue for Focus Areas to share the progress they've made with the larger community and facilitate cross-Focus Area collaboration.

3. Products

3.1 What outcomes or products will result from CSCEC?

Each year, CSCEC will produce products that could include technology state-of-the-art assessments, summaries of future -enabled missions, white papers, gap assessments and recommendations, summary roadmaps, etc. Each year, the CSCEC Steering Committee (a group that includes government, industry, and academia from across the Global) will prioritize member-defined product ideas to determine what CSCEC will work on for the next year.

3.2 What are some examples of products CSCEC might create?

On an annual basis, CSCEC members have the opportunity to propose additional product ideas for consideration by the Steering Committee.

3.3 Will there be a standard publishing mechanism for CSCEC products?

Some CSCEC products are intended for CSCEC members and will help members become more aware of activities happening within the Global community. Other products will be released to the community at large, providing communication that represents the needs, vision, and perspectives of the entire Global community. A repository for products will be established for each category, and the location of those repositories will be communicated to the membership.

3.4 How will products be advertised to the larger community?

CSCEC will regularly communicate to its members about work being done on specific products and will communicate to both members and the general public when a CSCEC product has been released.

3.5 Can agencies or organizations fund CSCEC to produce a product or perform a task?

Agencies, companies, or institutions that want to see a specific product generated by the consortium should submit ideas for CSCEC products during the Steering Committee's annual request for inputs. Members should engage with other members during meetings of their Focus Area and Caucus to garner support for this product idea. Every year, the SC will evaluate the product ideas and create a prioritized list of the following year's activities and products. Input from members regarding which current products they think are important or what new products should be created is vital to keeping members engaged and keeping the consortium relevant and useful.

3.6   Will CSCEC provide funding to members to develop products?

CSCEC does not provide funding to its members. By contributing their time, members who choose to participate in creating products will be able to influence the future direction of the nation's activity in . Members who attend regular Focus Area sessions, coordinate with other members via email and message boards, and attend General Membership Meetings will

have a better understanding of future mission needs, technology developments, test capabilities, and policy and regulatory concerns of the other members. These activities will help companies and universities position themselves within an market or niche and will help Global government agencies reduce unnecessary duplication of effort.

3.7   How will CSCEC avoid lobbying when publishing and delivering products?

CSCEC products will not be delivered directly to legislators, and CSCEC will not lobby any individual agency or government leader. CSCEC products will be created that best represent the perspectives of the Global community. Members can choose to use those packages to standardize their message to advocate and educate on their own behalf.

3.8   Will CSCEC fund any tech development or flight demos?

CSCEC will release solicitations and does fund technology development, flight

maturation, flight qualification, mission studies, commercial companies, or academia. CSCEC coordinates and facilitates communication between these organizations to reduce unnecessary duplication of effort and to increase community awareness of current and future plans.

3.9   Will CSCEC members have an advantage when competing for awards?

Future solicitations will not take membership in CSCEC into account as an explicit evaluation criterion, and no organization needs to join CSCEC to compete for an award. However, the CSCEC intends to regularly provide information to members about solicitations and   RFPs that come to our attention. As a result, participation in CSCEC may provide members an advantage in terms of awareness of opportunities, and CSCEC members should expect to be

better informed than non-members about the state of the Global community and the needs of specific future customers.

3.10   How will CSCEC protect my Intellectual Property (IP)?

CSCEC will never require any member to share IP with the CSCEC CME or with any other CSCEC members (i.e., government, industry, or academia). Any CSCEC member who

chooses to share their IP with another member can choose to establish appropriate NDAs directly between individual members.

4. Membership

4.1 How do I sign up?

CSCEC will begin accepting applications for membership following the Kickoff in Febrauay 2024. At that time, each CSCEC holder will have a Membership Agreement to all interested parties. The Membership Agreement will ask organizations (agencies, companies, and universities) to affirm that they are a Global organization, and that they will only allow Global persons to participate in CSCEC meetings, member only email lists, and other online collaboration locations. The organization will identify a primary technical point-of- contact and a list of other representatives (individuals) within their organization that can represent them at CSCEC meetings.

4.2 How do I sign up?

Total 1,000,000：

- Team: 30%, 300,000
- Pre-sale, private placement: 30%, 300,000
- Foundation: 20%, 200,000
- Community: 15%,150,000
- Other: 5%, 50,000

4.3 Can international companies or individuals be involved in CSCEC?

CSCEC membership is limited to Global persons representing the Global government and Global-based organizations. CSCEC encourages its members to collaborate internationally, CSCEC as an entity will focus on Web3.0 coordination on .

4.4 Will membership in CSCEC require committing to a minimum length of service?

General membership in CSCEC does not require a specific service term commitment or a minimum time commitment. All organizations who sign the membership agreement can choose whether to participate in all, some, or none of the CSCEC general membership meetings, Focus Area working groups, and Caucus meetings. However, for those on the Steering Committee a term commitment is required as defined in the CSCEC Operating Plan.

4.5 How often will CSCEC meet, either in-person or virtually?

CSCEC will convene the general membership twice a year for collaboration and coordination discussions. All General Membership meetings will include a virtual component.

Additionally, Focus Area working groups, Caucus working groups, and the Steering Committee will have their own virtual meeting cadence throughout the year.

5. Future

5.1 What metrics will CSCEC use to measure progress?

The CSCEC will be soliciting ideas for metrics from its members in 2023. Potential metrics may include the number of National Implementation Plan objectives that CSCEC fulfills and contributes to for the Global Government, the number of products CSCEC produces, investment in capabilities by the commercial marketplace, or the number of successful missions conducted by CSCEC members.

5.2 What is the long-term sustainment plan for CSCEC?

As the sponsor of CSCEC, most understands that making a routine part of space mission operations will not happen overnight, given that even the fastest new space missions can take 2-5 years to develop. Each year, the CSCEC community will recommend products and deliverables to pursue based on community needs and the overarching goals and objective of the consortium. CSCEC will require dedicated attention and persistence to achieve its overall goals and will closely monitor the infusion of activities into spacecraft operations.

In summary, The Cosmic Space Construction Engineering Consortium (CSCEC) is a Global blockchain alliance driving innovation in cosmic space construction engineering, collaborating with industry leaders like OFFWORLD and REDWIRESPACE to shape the future of space exploration. CSCEC's commitment to a million-person Mars Immigration Program reflects its dedication to providing equitable access to space for all CSCEC holders.