

**FY2012 Q3
Quarterly Report
Center for the Advancement of Science in Space**

Cooperative Agreement Number:	NNH11CD70A
Name:	Center for the Advancement of Science in Space, Inc.
Date Submitted:	July 2, 2012
Section I	Technical Status Report
Section II	Performance Metrics
Section III	Business Status Report

Section I: TECHNICAL STATUS REPORT

Board of Directors – status update: An executive search firm has been retained to strategically select the Board of Directors as well as the new Executive Director. This process will ensure a nationwide search is conducted for the most qualified candidates. The search process has been defined and will take place from March through the end of summer, with an initial selection of board members being appointed in July or early August and the remaining appointments being made by early fall. For additional information, please contact the Interim Board of Directors.

Interim Director of Administration, Chief Economist, and Director of Economic Valuation: CASIS named an Interim Director of Administration, Jorge Fernandez, CPA and a permanent Chief Economist, Charles R. Resnick, and Director of Economic Valuation, Warren Bates.

- **Jorge Fernandez:** *Mr. Fernandez served as Celsia Technology, Inc.'s Chief Financial Officer from 2005-2012. Prior to joining Celsia, Mr. Fernandez served as the Finance Director for Tiger Direct (NYSE: SYX), a Fortune 1000 computer and electronics retailer, served as Finance Director-Latin America for PRG-Schultz (NASDAQ: PRGX), an accounts payable recovery audit services firm and held the position of VP Finance for Fiera Group, an e-commerce startup in Latin America. Mr. Fernandez began his career as part of the assurance practice at Arthur Andersen LLP, where he managed audit engagements in South Florida. Mr. Fernandez received his Bachelors and Masters degree in Accounting from the University of Florida, and is a Certified Public Accountant licensed in the State of Florida.*
- **Charles Resnick:** *Mr. Resnick, Chief Economist, assists CASIS in managing the organization's economic analysis process, as well as coordinating Angel Investing, Venture Capital and Private Equity initiatives for the organization. Mr. Resnick holds more than 25 years of experience in global general and financial management, private equity/venture capital, start-ups, and operations and strategic planning focusing on technology, banking and consumer products. He has expertise in both domestic and international business, and served as a negotiator of the General Agreement on Tariffs and Trade (GATT), as well as the North American Free Trade Agreement (NAFTA), as Undersecretary in both the Bush and Clinton Administrations. Most recently, Mr. Resnick served as the Managing Partner of Inflexion Fund, an early-stage venture capital firm. Throughout his career in both the public and private sectors, he has used integrated economic models to determine the allocation of capital. Mr. Resnick has an A.B. in Biology, graduate studies in both biochemistry and microbiology, and MBA in Finance.*

**FY2012 Q3
Quarterly Report
Center for the Advancement of Science in Space**

➤ **Warren Bates:** *Mr. Bates joined CASIS in March 2012 and is currently the Director of Economic Valuation. Prior to that, Mr. Bates was with Sentinel Capital Partners, a leading middle market private equity firm, from 2008-2012. Sentinel invests in management buyouts, acquisitions of family businesses, corporate divestitures, industry consolidations, and going-private transactions in the United States and Canada. Sentinel also invests in special situations, including balance sheet restructurings and operational turnarounds. Based in New York City, Sentinel has approximately \$1.25 billion of capital under management. Mr. Bates began his career in the Investment Banking Division of Morgan Stanley in New York City with the Global Power and Utilities Group, where he helped advise domestic and foreign corporations on a variety of strategic and financing opportunities. Mr. Bates received his B.S. degree from M.I.T. in Mechanical Engineering with a concentration in Finance.*

Space Life Sciences Lab (SLSL): The CASIS offices were reopened on May 21. The CASIS operations team returned to occupy the SLSL along with IT and data systems, human resources, and strategic planning departments. Space Florida and Dynamac are working to provide building access control now that it is located outside the KSC security gates and commercially accessible. CASIS is installing equipment to support our internal network infrastructure in order to join all locations together for a segregated secure network. This will include our internal phone system as well as all data systems. CASIS relinquished space within the suite to accommodate renovation and expansion of an office for the Dynamac Operations Manager. Other members of the CASIS team occupy an office suite located at 6905 N. Wickham Road, Suite 100, Melbourne, FL 32940 as well as our original location at 7000 Fannin Street, Suite 1950A Houston, TX 77030.

Amendment of the Cooperative Agreement 00005: On May 29, 2012, NASA transmitted to CASIS a proposed modification to the Cooperative Agreement. CASIS has agreed to proposed changes that would: (1) amend certain sections of section 3.1 of the Agreement; (2) revise section 4.25 of the Agreement concerning "Allocation of Risk/Liability; and (3) add section 4.32 concerning "Use of NASA Name and Emblems." CASIS and NASA continue to discuss proposed modifications that would add clauses concerning Patent Rights and Rights in Data, and the manner in which clauses concerning these matters will be implemented in CASIS agreements with grantees and space station users.

Reorganization: CASIS terminated its relationship with the membership and fundraising director, the position required someone to better meet the needs of the organization. A search firm was engaged to select a new candidate as the Director of Development, as well as an additional position, Chief Operating Officer (COO).

The COO will support the Executive Director toward the implementation of the vision and mission for CASIS with supporting goals, objectives, and metrics. The COO will manage CASIS's day-to-day operations and strategic planning.

**FY2012 Q3
Quarterly Report
Center for the Advancement of Science in Space**

Section II: PERFORMANCE METRICS

American Astronautical Society, First International Space Station Research and Development Conference, June 26 – 28, 2012: In cooperation with the AAS and NASA, the inaugural conference was held in Denver, Colorado. The conference consisted of plenary and technical sessions and concluded with a new user workshop and implementation partners trade show. The intent of the conference was to bring awareness of the ISS capabilities and opportunities to the broader scientific community and research organizations from a wide variety of research fields. CASIS moderated some sessions and informed attendees, including those new to space, on how utilizing a platform like the ISS can benefit research experiments in ways that cannot be replicated in ground-based research. Attendees learned about upcoming CASIS request for proposals seeking to identify projects that may benefit from the microgravity environment to be supported through grant funding opportunities. Meetings were also conducted on the sidelines with potential users and with NASA officials. Feedback from both was overwhelmingly positive.

Performance Measurements and Management Protocols: Performance Metrics have been developed and will continue to evolve with the CASIS organizational structure and operations. CASIS is currently developing the integrated dashboard requirements and initial design. Initial CASIS performance metrics will include:

- Manage/Prioritization - Year-over-year change in ISS NL utilization (# of by other gov't, academic, and private entities)
- Develop/Solicit - Ratio of projects solicited to ISS NL available capacity
- Develop/Manage Marketplace - Year-over-year change in pending ISS NL projects (by other gov't, academic, and private entities)
- Develop/Solicit - Net value of projects solicited
- Ratio of CASIS expenses to total NL research value estimate (Total CASIS Expense / total estimated market size—from Economic Valuation).
- Develop/Marketplace - Number of funding and project matches made
- Develop/Marketplace - Ratio of funding matches made by CASIS to self-funded and total NL research (Total funding = CASIS funded + Self-Funded) Ratio= CASIS Funded / Total Funding & Self-Funded/Total Funding)
- Develop/Solicit - Total value of grants awarded by CASIS
- Develop/ Implement Compliance Process – Year-over-year change in pending COI/ POI
- Disclosures and Certifications
- Develop/ Implement Contracts Process – Number of contracts awarded. Year-over-year change in pending contracts.
- Stimulate/Membership – Number of members (paid and unpaid).

**FY2012 Q3
Quarterly Report
Center for the Advancement of Science in Space**

- Stimulate/Membership – Number of benefits awarded.
- Develop/Solicit – Number of Donors and paying members.
- Develop/Solicit – Geographical distribution of members.
- Communicate/Stimulate/Advocate – Social media metrics (number of followers, number of Tweets, web site hits, YouTube video views, etc.)
- Communicate/Stimulate/Advocate – Number of news stories, mentions in journals and websites, etc.
- Develop/Marketplace – Number of product endorsements, product placements, sponsorships, shows and events, attended, advertisements and commercials
- # Of Projects Received; Company/Investigator Conversations; Company/Investigator Meetings; Projects Funded; Projects Rejected; Projects Flown; Estimated Market Size
- (Each category above quantified by the following segments: Biosciences, Earth Observation, Materials Science, Unsolicited Pathway A, Unsolicited Pathway B)
- Develop/Research pathways - Total number of active STEM programs by CASIS
- Manage/Scientific - Year-over-year change in number of active STEM programs by CASIS
- Stimulate/Membership - Total number of students and teachers involved in STEM projects by CASIS
- Manage/Prioritization - Year-over-year change in number of students and teachers involved
- Stimulate/Membership – Demographics (ethnic, gender, zip codes)
- STEM Website – Number of page views and downloads

Transition of the current ISS National Lab projects from NASA National Lab office to CASIS will be completed: CASIS completed the transition of current ISS National Lab projects from the NASA National Lab office. As part of this effort, CASIS adopted the commitments of the existing Space Act Agreements and entered into new Memorandums of Agreement with existing National Lab office partners to ensure a continuation of project support and other commitments within CASIS's ability to support. Moving forward CASIS continues to create new relationships with its Implementation Partners and with researchers and technology developers seeking to do business with the ISS National Lab. To date, CASIS has received approximately 30 new proposals to conduct research or enable new technology on the ISS National Lab platform. Each proposal is being evaluated through our established review, selection and prioritization process.

Marketing and Communications: Approaches will be refined and social media strategy will be implemented. The full content management web site will be launched.

Communications

Since the previous report, CASIS has launched a new website, offering audiences a greatly improved user experience with more dynamic graphics, videos, multimedia, blog offerings and news updates about the ISS, the ISS U.S. National Laboratory and CASIS activities. The website is designed to

**FY2012 Q3
Quarterly Report
Center for the Advancement of Science in Space**

be simple and user friendly. Highlights include the interactive ISS Timeline and videos, as well as the "sliding marquee" on the CASIS Homepage. The blog "*On Station*" has also been introduced. It includes guest columns from figures in the aerospace world and features news on CASIS and updates on the ISS. In addition, the website has been set up to announce and receive applications for research solicitations. The first solicitation announcement went up on the website with instructions and supporting material on 6/26. The public resignation of the former Executive Director in March 2012 resulted in an avalanche of negative press reports and blog postings. A concerted effort to stem the bad press and turn public sentiment followed with MarComm pushing a strategy of "base hits" within the organization that could be promoted by CASIS to show a steady forward momentum. The strategy seems to have worked. A press briefing at the National Space Symposium in Colorado Springs in April 2012, marked a significant turning point for CASIS, starting a run of positive stories about CASIS' utilization efforts. Over the past quarter, CASIS issued 10 press releases, some of which were picked up by the mainstream media, including National Public Radio and CBS Radio, as well as trade publications like Space News and Aviation Week. Copies of these press releases can be seen on the CASIS website at the following link;

<http://www.iss-casis.org/NewsEvents/PressReleases.aspx>

During the last quarter, the MarComm team produced videos and printed material to support business development efforts at Boston Bio and the AAS-CASIS ISS Utilization Conference in Denver. MarComm also hired a new Communications Manager to develop and oversee the production and distribution of a weekly internal newsletter for CASIS stakeholders. The newsletter should be ready for distribution by August. Efforts have also started to create a weekly webcast about what's happening at CASIS and the ISS NL in a more dynamic fashion. Production should begin in July/Aug 2012. Each episode will be between five to 15 minutes long and will be shared with NASA to try to generate more attention for both the ISS NL and CASIS. Efforts to create an education "micro website" have been started with the CASIS education team.

MARKETING

Much energy was spent in better defining and promoting the CASIS brand that is critical to the ability of the organization to form high-value partnerships with corporate America to attract research and major donations. During the week of 6/17, CASIS unveiled a new brand identity, including a new logo, to help symbolize the organization's significant progress over the last three months. Then on 6/27, CASIS unveiled the "*Space Is In It*" product endorsement, which will be bestowed by CASIS on select products enhanced by research and development and use on the ISS NL. The "Space Is In It" seal will connect Station science to Americans and American culture by singling out innovative consumer goods that are the result of space research and research activity. The seal will increase awareness of the benefits of the ISS NL while setting products carrying it apart from their competition. A "Space Is In It" website will go live in July as will efforts to promote it with videos and multimedia. The seal will be an important addition to the CASIS business development quiver. In mid-May, the MarComm group implemented the first part of a strategy to increase social media followers. The steps have shown great progress, though efforts need to continue. In the roughly six weeks since the start of strategic notifications and targeted messages to Facebook members, "Likes" on the CASIS Facebook page have soared to 184 from a paltry seven, while Twitter followers have increased to 885 from less than 100 when Bobby Block started as Director of MarComm on 3/5. CASIS also recently joined Linked In and is currently connected to 54 members in its first month. Efforts to grow these numbers across all platforms will be stepped up over the coming weeks and months ahead.

**FY2012 Q3
Quarterly Report
Center for the Advancement of Science in Space**

Valuation Framework and Methodologies: Proposals to utilize the ISS National Lab ("NL") for CASIS to evaluate fall into two categories: Solicited and Unsolicited. Solicited proposals are responses to CASIS RFP releases driven by portfolio objectives and research pathways approved by the CASIS Board of Directors ("BOD"). Unsolicited proposals are a result of promotion of the ISS NL and focused CASIS outreach led by the CASIS Business Development ("BD") team. These outreach efforts allow both academic and commercial investigators to realize that CASIS can facilitate access to the microgravity environment provided by the ISS NL.

Solicited Proposal Valuation and Prioritization Process

1. Chief Scientist ("CS") and the Science Collegium ("SC") will first develop overall portfolio objectives (basic research vs. applied research) and suggest research pathways (biosciences vs. materials science vs. earth observation, etc.). The SC will consist of various academic and commercial experts in their respective fields.
2. The CASIS Economic team reviews the portfolio objectives and research pathways identified by the CS and SC. The Economic team may utilize relationships with industry-leading external consultants depending on the industry (e.g. McKinsey & Co., Bain & Co., Boston Consulting Group, etc.) to recommend changes to the objectives and/or research pathways if appropriate. Some key areas of consideration include (i) market size, (ii) time to translation of benefits to American taxpayers, (iii) potential customer feedback, and (iv) scientific merit as determined by the SC.
3. Chief Economist ("CE") and CS sign off on research pathways and portfolio objectives. It is the responsibility of the CE and CS to present research and portfolio objectives to the CASIS Board of Directors ("BOD"). The BOD will then either approve or disapprove these objectives and pathways. In addition, the BOD may suggest changes to render pathways consistent with the CASIS mission.
4. Upon BOD approval, execution takes place through the CASIS Business Development ("BD") team. BD develops a tactical execution plan for each defined vertical market segment, using the Board members as well as the economic team, scientific team, communications team, and external consultants to help stimulate demand. The execution plan may include attending industry conferences, communicating directly to industry associations, potential commercial customers and key researchers in a given field, and releasing focused solicitations. CASIS will use funds to: (i) offer grants through solicitations, (ii) match investigator funding and (iii) create enhancements to current ISS NL capacity and ground capabilities.
5. After receiving proposals that aim to achieve the established portfolio objectives and research pathways, CASIS will utilize a valuation and prioritization framework for grading each individual proposal. The valuation and prioritization process for solicited proposals will include five steps:
 - a. Expedited review by the CASIS Operations team to determine technical feasibility of the proposed project and the achievability of the estimated budget and timeline
 - b. Evaluation by the Scientific Project Selection Panel ("PSP"), an external panel of subject matter experts, to score the proposal for scientific merit and potential commercial/social impact
 - c. A two-pronged economic evaluation process by the Economic PSP, managed by the CASIS economic team, to score potential commercial and intangible value
 - d. Review by the CASIS Compliance team of regulatory and legal risks (this step may occur in parallel with step III if few proposals are submitted)
 - e. A final prioritization and award determination by the CASIS Executive Director ("ED"), CE and CS on the basis of recommendations from the PSPs and CASIS staff, as appropriate

**FY2012 Q3
Quarterly Report
Center for the Advancement of Science in Space**

Further details on each step of the process are:

Operations: Technical feasibility of proposals is performed to ensure the viability and readiness for flight. The review is performed by the CASIS Operations team, which will consult as needed with NASA technical experts to determine overall feasibility. This review is an unscored, pass-fail initial screening; however, CASIS may consider an interview with the investigator(s) to clarify technical elements of the proposal as well as the proposed budget and schedule in order to make its determination. Specifically, the technical feasibility review considers logistics, hardware, projected budget, time frame, and potential hazards.

The Operations team will organize its comments into an Operations Appendix to the proposal. The Appendix will provide crucial input for prioritization (e.g., time frame and budget) and will identify logistical challenges in the proposals in areas where new-to-space investigators will potentially be deficient. This function serves to support the new space investigator so that appropriate considerations are made in their proposals, as well as to prevent experienced space investigators from scoring higher in the later rounds of review (thereby supporting the CASIS goal to attract new users).

Only proposals that demonstrate operational feasibility will pass this round of review and advance to scientific evaluation. The decision of the Operations review is final and not subject to appeal.

Scientific Evaluation: Using the scoring rubric below, an external panel of subject matter experts in the RFP target field, assembled by CASIS, will evaluate proposals which passed the Operations review. Their evaluation will consider both the original proposal and any additional information added as an appendix to the proposal by the CASIS Operations team after the Operations Evaluation.

Score	Descriptive features	Potential for selection
90–100	EXCELLENT: A thorough, comprehensive and compelling proposal of exceptional merit that fully responds to the objectives of the RFP, as documented by several major strengths; no major weaknesses and only very minor weaknesses, if any.	Top priority for selection.
80–89	VERY GOOD: A competent proposal of high merit that fully responds to the objectives of the RFP, as documented by one or more major strengths and no major weaknesses; strengths substantially outweigh any minor weaknesses.	Second priority for selection, barring issues of funding availability or programmatic priorities.
70–79	GOOD: A competent proposal that represents a credible response to the RFP, as documented by no major weaknesses; strengths and weaknesses on the whole are in balance, but strengths somewhat outweigh weaknesses.	May be selected as funds permit according to programmatic priorities.
50–69	FAIR: A proposal that nominally responds to the RFP, in which one or more major weaknesses, in combination with any minor weaknesses, clearly outbalance any strengths.	May be selected after revisions as funds permit according to programmatic priorities.
0–49	POOR: A proposal with several major weaknesses or weaknesses that constitute fatal flaws.	Not selectable regardless of programmatic priorities or availability of funds.

Minor weakness: an easily addressable weakness that does not substantially lessen merit/impact.

Major weakness: a weakness that severely limits merit/impact.

Reviewers will score the following categories on a 1-100 scale and will then average the individual scores

**FY2012 Q3
Quarterly Report
Center for the Advancement of Science in Space**

to produce an overall merit/impact score: significance, investigators, innovation, approach and environment.

Economic Evaluation: The Economic Evaluation process will be twofold, with each branch of the process (Commercial and Intangibles) using a 1–100 scale and the same scoring rubric as the Scientific Evaluation process. The weighting of the intangible score in the final combined score will range from 0 to 50%, depending on what part of the research pathway the proposal affects (higher weighting for affecting later points in the pathway closer to commercial product application). Similar to the Scientific Evaluation process, CASIS will assemble an external panel of subject matter experts to evaluate the proposals. These experts will most likely come from industry-leading consulting firms including McKinsey & Co., Bain & Co., Boston Consulting Group, etc.

Reviewers will score the following categories:

Commercial Evaluation: Reviewers will evaluate commercial letters of support during this stage, quality of management and key employees, size of market(s) and competition, competing products/services and technologies, the business and operating plan, as well as customers and suppliers.

Intangibles Evaluation: Reviewers will evaluate three key categories: (i) greater good to society, (ii) U.S. leadership in space and (iii) economic and human capital development.

Regulatory Review: After the economic evaluation, the CASIS Compliance team will review meritorious projects, providing notes regarding potential problems for the following areas: data integrity, risk liability, ethics and research integrity, regulatory compliance and conflicts of interest.

Prioritization and Award Determination: The ED, CE and CS will perform the final prioritization and award determination, initiating discussions with members of the Project Selection Panels and CASIS management-level staff as necessary.

The ED, CE and CS will meet and review the eligible projects, relative to the entire NL research portfolio, on the basis of scientific merit, scientific value, economic value, technology advancement and educational value. They will consider estimated cost and timeline alongside scores and comments from all review steps.

All projects must meet minimum eligibility requirements such as readiness for an increment, secured funding (including CASIS grant funding) and an agreement with an implementation partner. Prioritized proposals with sufficient funding will advance to the CASIS Operations team for preflight activity and project management. CASIS Operations staff will participate in NASA research processes to support established strategic and tactical planning.

For projects without sufficient funding to advance to Operations, CASIS will assist with finding potential funding sources including reaching out to the investor community.

Lower priority proposers will be notified that their project needs improvement with feedback on its weaknesses, and they will be invited to re-submit at a later date and/or post an advertisement seeking financial or research support on the CASIS Innovative Marketplace Exchange Forum.

Unsolicited Proposal Valuation and Prioritization Process

Through promotion of the research opportunities available on the ISS NL, CASIS has and will continue to receive many unsolicited proposals from investigators hoping to utilize the ISS NL and are asking what it would take to get there. This unsolicited interest has caused the CASIS approach to evolve so that we do

**FY2012 Q3
Quarterly Report
Center for the Advancement of Science in Space**

not disenfranchise potential users of the station. History has shown that people have unique and powerful ideas, and CASIS has created a process that will capture, evaluate and prioritize all unsolicited commercial and academic proposals to conduct science on the ISS NL.

Upon receipt, all unsolicited proposals or leads will be forwarded to the Business Development ("BD") team. If a full proposal is delivered to CASIS (rather than a verbal description), the proposal will then be logged into the CASIS database as a "pre-qualified" project. The BD team will alert the Director of Operations, Director of Science and Technology, and Director of Economic Evaluation of all new projects that require a review for qualification. Upon notice, the respective directors and their teams will, in parallel, evaluate each proposal to see if (a) it has potential to fly and warrants further investigation or (b) it has obvious deficiencies and does not warrant further investigation. For those that are disqualified, feedback is provided to proposers on potential enhancements that might improve their chances of moving forward.

All qualified unsolicited opportunities will be discussed in a monthly review with the CS and CE. During this monthly review, the CS and CE will receive a flash report of qualified proposals, and each project's details and merits will be discussed. The CS and CE will provide feedback on specific projects. Additionally during this monthly review, the CS and CE may identify and develop new research pathway opportunities for BOD consideration.

Specific projects the CS and CE identify as qualified opportunities fall into the same review process as proposals that are submitted through traditional solicitations, including (i) an Operations Evaluation, (ii) Scientific Evaluation with external review panel, (iii) Economic Evaluation with external review panel, and (iv) the final selection panel consisting of the ED, CS, and CE.

All unsolicited projects must meet minimum eligibility requirements such as (i) readiness for an increment, (ii) secured funding (including CASIS grant funding), and (iii) an agreement with an implementation partner. Prioritized proposals with sufficient funding will advance to the CASIS Operations team for preflight activity and project management. CASIS Operations staff will participate in NASA research processes to support established strategic and tactical planning.

For qualified projects that lack the necessary funding for advancement, CASIS will assist in creating relationships with the investor community for potential financial partnerships.

Lower priority proposers will be notified that their project needs improvement with specific feedback on weaknesses, and they will be invited to re-submit at a later date and/or post an ad on the CASIS innovative marketplace exchange forum.

Inaugural Board Meeting and Approval of Research Pathways: The Interim Board met with the Interim Executive Director on June 8, 2012. APP milestones were reviewed including approval of the project pipeline and initial research pathways. The first research solicitation activity was presented. CASIS publicly announced its first solicitation for proposals on June 26, Advancing Protein Crystallization in Microgravity. (Refer to Addendum A, RFP - Crystallography)

**FY2012 Q3
Quarterly Report
Center for the Advancement of Science in Space**

Program structures and implementation plans for operations of the membership and marketplace: Launch of the programs will occur in 3Q to 4Q, at which time facilitation of matching projects and funding sources will be initiated. (Implementation plans for membership and marketplace to be included in quarterly progress reports.)

Membership Program and Marketplace

As originally envisioned, the membership program and the ISS NL Marketplace will create an engaged constituency and network of interested members who can communicate the value of the ISS National Laboratory. The membership program and marketplace are being developed simultaneously. The efforts are interdependent; the marketplace is the primary inducement to membership, and members are the primary source of value within the marketplace. They are being developed with independent resources so they can ultimately complement each other.

Membership Program Definition In the current membership model, benefits for members are entirely derived from engagement with the Marketplace Exchange. The Marketplace Exchange has not yet grown to its full potential and cannot provide sufficient benefits to prospective members. The current membership model will be expanded and restructured to create tangible benefits distinct from the Marketplace Exchange to enhance marketability and general interest.

Membership models are generally utilized by destination organizations (museums, zoos, etc.); trade associations and professional organizations; and social value institutions (conservation, etc.). These organizations provide an array of tangible benefits that their members can access depending on the level of membership: free admittance; reduced conference fees; professional development services; merchandise discounts; larger tax-deductibility, etc.

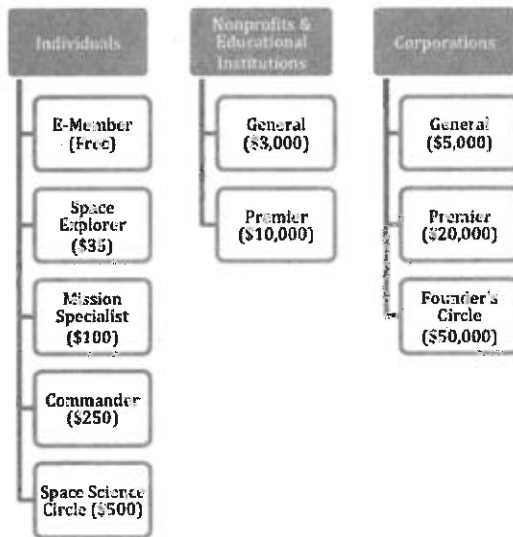
The CASIS membership program has aspects of all three traditional membership models, but is innovative with its vision of the Marketplace Exchange. This differentiates it from existing models; however, the foundation for each membership model remains the same:

1. Participants – Who are CASIS target members? This is defined as specific markets or market segments. In regards to CASIS, it is largely defined by the Marketplace.
 2. Value – What products and services do CASIS members value? Providing value involves both understanding prospective members' needs for content, community, etc. and the ability to deliver what is needed.
 3. Term – How long is a member a member? For many, the standard term of membership is one year. This is defined in the CASIS membership program.
 4. Fulfillment – How will CASIS deliver its membership benefits? There is a growing shift to an electronic only membership. As CASIS is national, the more electronic rewards that can be added in the future, the more cost-effective and "green" the membership.
 5. Price – How much, if anything, is the CASIS membership? "Free" memberships are being tried by organizations to build community or engagement as part of a larger economic strategy. CASIS founding documents mandate free and sliding-scale memberships.
 6. Purpose – Why should CASIS establish a membership program at all? CASIS founding documents establish the purpose of the membership program as a conduit to the Marketplace Exchange.
- The membership program will include benefits independent of the marketplace to "seed" the membership while the marketplace itself is maturing. These will include traditional benefits to participants, such as: membership card; discounts and special promotions from CASIS partners; invitations to special events; and recognition in annual report, conference materials and/or the website.

FY2012 Q3
Quarterly Report
Center for the Advancement of Science in Space

As outlined in the Cooperative Agreement, the membership structure breaks down into three categories: individual membership, non-profit membership (this includes educational institutions), and corporate membership. Each of the categories includes sliding scale contribution amounts. All members, regardless of category, will have access to the ISS NL Marketplace.

Marketplace Program Definition The ISS NL Marketplace will create opportunities for interested parties to become part of the ISS National Lab community consisting of laboratory users, project funders, students and public supporters.



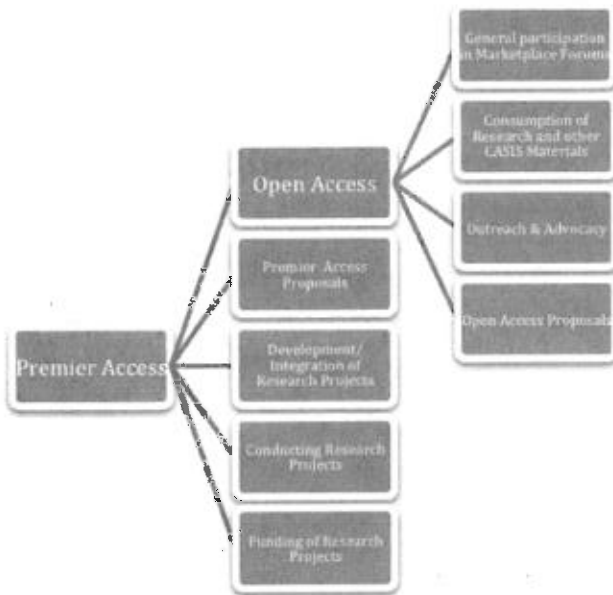
Members who engage the ISS NL Marketplace will fall into two categories. Users are those with an interest in conducting research aboard the ISS, including: researchers, funders, academic institutions, and government agencies. Supporters are those interested in consuming research performed by others on the ISS, generally: academic institutions, commercial interests, government agencies, museums, and interested individuals. Various aspects of the membership program are targeted at each type of user.

Supporter-focused elements of the ISS NL Marketplace will create a community of interest in the ISS NL, foster a feeling of ownership in the program, and establish communication channels with prospective consumers of research, including educators, researchers, and commercial interests.

User-focused elements of the ISS NL Marketplace will match researchers with appropriate funding sources and will coordinate research both between and among respective pathways so as to efficiently utilize ISS NL resources.

All members will have open access to the ISS NL Marketplace. Members with open access will be able to submit research proposals, access research proposals and publications, and participate in the funding and promotion of research. Open access will be comprised mostly of individual members who engage the ISS NL Marketplace as supporters. Some membership categories will also have premier access, with appropriate management from CASIS. Members with premier access will be comprised mostly of non-profits, educational institutions, research institutions and corporations who engage the ISS NL Marketplace as both users and supporters.

FY2012 Q3
Quarterly Report
Center for the Advancement of Science in Space



Database Management: Validation will be completed for database management for database and portfolio management systems and interoperability will be ensured.

The CASIS science portfolio database requirements are nearly the same as the NASA's ISS Program Science Office's (PSO) science database. PSO has been updating the science database such that CASIS and others will be able use that database directly via secure access methods, and not have to duplicate resources NASA already has or will have soon. It has been estimated September timeframe for when PSO will be able to provide CASIS with secure remote access to the enhanced database. Once PSO has provided CASIS with the secure connection to their science database, CASIS will be able utilize that resource as our science portfolio. CASIS will be a partner with the Resources for the Future initiative enabling CASIS to develop or suggest enhancements to science portfolio capabilities, such as patent search capability and science pathways analysis. Other database systems are being developed and integrated to support other aspects of the CASIS business model such as marketplace, membership, and business operations.

FY2012 Q3
Quarterly Report
Center for the Advancement of Science in Space

Section III: BUSINESS STATUS REPORT 31 May 2012			
	Budget	Actuals YTD 2011- 2012	Variance
	\$19,958,755	\$5,952,799	\$14,005,956
Direct Labor	7,479,083	2,126,510	5,352,273
Grants to be Awarded	3,000,000	750,000	2,250,000
Equipment (Permanent > \$5k)		0	0
Equipment (Expendable and Supplies)	323,800	254,122	69,678
Other Direct Costs	2,552,978	366,154	2,186,824
Subcontract Costs	6,014,394	2,202,357	3,812,037
Travel	588,500	253,656	334,844