

# FOUNDRY PROJECT WORKSHOP

## The Foundry 2001

Do you want to help put the human race into space? Are you tired of watching from the sidelines but aren't sure how to get involved? Have project concepts you would like to pursue? Come to the Foundry at the 2001 ISDC in Albuquerque New Mexico starting on the 25<sup>th</sup> of May.

The Foundry is a project incubator workshop. The Foundry helps participants turn good ideas into doable projects. The Foundry brings together those who are willing to work for a project of their choice and (or those who want to help), the necessary expertise, and the resources all in one place. The Foundry is open to anyone who wants to participate.

Funding is available for NSS chapter projects. The Foundry is not just for chapters, but this funding may serve as one good reason to start some new chapters. The Foundry will be the process for establishing which chapter projects get funded, and by how much. The Foundry process will also enable participants to identify other potential funding sources and prepare them to apply for these. The Foundry leadership has experience in project fund raising such as contributor programs and NASA grants for non-profit organizations, and venture capital along with NASA and commercial contracts for profit seeking space development ventures.

Do you want to put on a space day for kids, or build an experiment to fly in space? Are you interested in performing space-related studies or laying the groundwork for even bigger endeavors? Interested in starting a space-related business? These are only examples of ideas that people are bringing to the Foundry to further develop, plan, line up resources for, and execute. The Foundry organizers understand, as many in the space community do, that there are some things that the government can't or won't do. It is therefore the goal of the Foundry to further space-based private initiatives, whether they are for profit or non-profit.

Suppose you want to come to the Foundry but you don't have any project ideas in mind? If you do not have a scheme in mind (not everybody does) but want to help, you are needed and welcome. Those with projects in mind will need your help, your contribution. In a project of any size, a number of individual's efforts are required at some point to complete the endeavor. Initially we will go over all the proposed project ideas. You can then see which projects you want to work on.

HAL5 will offer the 2001 ISDC Foundry a set of "ready-to-bake -precanned" projects for NSS chapters. One is the opportunity to participate in HAL5's High Altitude Lift-Off (HALO) Program. The HALO Program consist of two development projects, hybrid rocket systems, and balloon launched rocket (rockoon) systems. HAL5 plans to fly student payloads, after the first demonstration flight, into space on suborbital trajectories. The other project, HALO Achievement is being developed under the guidelines of Junior Achievement to take space education into the classroom. Fifth graders will learn the characteristics of space and form project teams to develop

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concepts for sending Rascal the Rockoon Raccoon to Mars. Seventh graders will participate in Junior Cadet Foundries to develop projects for flying experiments on ground launched amateur rockets and high-altitude weather balloons. The Junior Cadet Foundries will last six-nine weeks in the classroom, and up to all year as an extracurricular activity. Twelfth graders will participate in Senior Cadet Foundries to propose projects to fly on HALO rockoon missions.

Another source of project concepts may be found at the following website:

<http://www.nss.ac/hub/projects.htm>

We must help ourselves get into space. Our goals are ambitious and will not happen overnight. Our goals will be accomplished incrementally, with contributions from many different disciplines, over several years. The Foundry is structured to accommodate this bite-size-at-a-time approach to space.

How does the Foundry work? Most projects have common up front planning activities. They include thinking through and answering common questions such as what major tasks are involved, manpower and other resources required, potential pitfalls to avoid, etc. How these questions are answered is dependent on project size and type, complexity and duration. Putting on a space fair at a school involves different resources and problems from, say, building an experiment for space. The Foundry, however, can accommodate the up front planning of both activities as well as many others, and has available resources useful to each of them.

How can you become involved? We are currently signing up participants (those who have projects in mind or want to help with one) and consultants (those who can provide the benefit of their experience and expertise at the conference).

- Foundry Participant has a project in mind or wants to help with one, and agrees to attend the Foundry during the 1998 ISDC. Foundry Participants will be sent a packet with more detailed information on how to prepare for the Foundry.
- Foundry Consultant agrees to volunteer his or her experience/expertise during the 2001 ISDC as needed. Expertise in the fields of marketing, finance, technical and scientific disciplines, and others, are needed. The idea is to utilize the expertise already available at the conference.

ISDC conference attendees are a select group. They are doers, dreamers, and thinkers. They can and do actively work towards the goals of living and working and exploring space. The Foundry can help.

If you are interested in this activity; either as a Foundry Participant, or as a Foundry Consultant, please check the appropriate Foundry choice, then complete and return the enclosed form.

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Last but not least, the Foundry effort does not end with the 2001 ISDC. Foundry services are available to participants over the ensuing months. There will also be an online clearing-house. So if you run into problems three months after the conference, you aren't all alone. Help is available.

The Foundry is happening NOW. To get more information call or write:

Greg Allison  
PMB 168  
1019 Old Monrovia Road  
Huntsville, AL 35805

(256) 961-1774 (day) or (256) 859-5538 (evenings)

Email address: ghallison@aol.com

-----detach along this line-----

ISDC Registrant's Name: \_\_\_\_\_

Email Address: \_\_\_\_\_

Day/Work Phone: (     ) \_\_\_\_\_

Evening/Home Phone: (     ) \_\_\_\_\_

- Foundry Participant - I have a project in mind or want to help with one. Please send me the detailed Foundry packet.
- Foundry Consultant - I agree to volunteer my experience/expertise during the ISDC as needed.

Foundry Consultants: please provide a biographical sketch (include specific expertise, and education as appropriate):

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(To submit form, cut form along the dotted line and mail to the above address)

## THE FOUNDRY

### *Putting Dreams onto Paper*

#### **PREWORKSHOP PARTICIPANT CONSIDERATIONS**

If you can complete the following exercises before the Foundry workshop you will have a head-start toward the consideration of the major parameters of your project.

1. Describe the project in 50 words or less:
2. List the goals of you project
3. What are you specific objectives?
4. What are your minimum criteria for successes?
5. How does the project contribute to the development of space? Does this project promote direct development via very low cost access to orbit, orbital transfer technologies, permanent presence in space, or indirectly via an increased public awareness of the benefits of space development?
6. Describe how this project evolved - please give background. That is how did you come up with this project idea (something you read, a personal interest, conversation with a friend, receipt of a newsletter of other)?
7. List the major steps required to complete the project. (Note: we are looking for some conceptual thoughts here - some of the Foundry work will involve more definition of these steps.) Consider how most projects follow through stages similar to those listed below (as they are applicable to your project of course):
  - (a) Brainstorming,
  - (b) Initial Concept,
  - (c) Project Feasibility,
  - (d) Market Feasibility,
  - (e) Preliminary Design,
  - (f) Testing and Prototype Development,
  - (g) Critical Design,
  - (h) Flight/Mission Readiness, and or Customer Buy-off!

Remember - technical feasibility is meaningless compared to actual demonstration!

## **ATTACHMENT A**

### **PREWORKSHOP PARTICIPANT CONSIDERATIONS** **(CONTINUED)**

8. List potential project pitfalls or problems you foresee and how you might work around and/or resolve them. Like question #7, we are looking for some conceptual thoughts here - some of the Foundry work will involve more definition of, and efforts to avoid, problems. The Foundry Review Panel, the onsite component of the Foundry Board of Advisors, is intended to provide a “friendly gauntlet” of constructive criticism through which to run your ideas to help identify problem areas and offer solutions. (Some of the best solutions should come from the networking opportunities.)
  
9. List areas in which you need specific advice or expertise. Note: technical as well as financial and marketing expertise is available and useful whether your activity is profit or non-profit oriented. Not all members of the Foundry Board of Advisors will be onsite at the event to participate in the Foundry Review Panel. Many may be available after the event to assist specific areas of need.

# ATTACHMENT B

## FOUNDRY PROJECT TASKS

Foundry participants are asked to complete the following tasks for their project during the workshop at the ISDC:

- (1) List the major steps required to complete the project.
- (2) Describe each major step in detail - use lists, flow diagrams, whatever helps you to outline each step.

Note: in order to perform a through evaluation, major steps need to be broken down into subtasks (some of you may be familiar with a concept known as work breakdown structures (WBS)). Keep breaking down tasks until at least you can make an estimate for each task or subtask.

- (3) Identify resources required for each major step, i.e., manpower, money, expertise, computer resources, facilities for testing, manufacturing, and office space, etc.
- (4) Describe how resource needs may be met. Where will the base of operations be located? How many of these resources can you obtain locally?
- (5) List project pitfalls or problems you'll need to overcome (that you can foresee) and how you will work around/resolve them.
- (6) From what you already know, put together a schedule for the project. Include major milestones to be completed and what date they need to be accomplished by. You may refer to item #7 of the Preworkshop Participant Considerations list as a guide.
- (7) If your project is not to be completed within a year, show what will be completed in one year.
- (8) Evaluate overall project feasibility (a self assessment exercise)
- (9) List potential markets for commercial projects. For not-for profit project there does also exist markets (they are of a non-commercial nature, i.e., audience, peer-review, etc.) List not-for-profit markets as you see them.

Note: Market success is the ultimate criteria for the success of any project.

Be prepared to discuss answers to these questions at the Foundry Review Panel Monday morning.

# ATTACHMENT C

## FOUNDRY WORKSHOP AGENDA

Come see what YOU can do to get us into space!

(Note: Most participants will not be required to attend the Foundry functions throughout the duration of this agenda. Schedules will be explained in the Introduction and Rules of the Road Session at the Kick-Off.)

### **FRIDAY (PM): Parlors E + F**

**2:00-2:10 Foundry Welcome/Introduction and Workshop Rules of the Road**

**2:10-2:30 Participant Networking Round Robin**

Each participant shall state:

1. Who they are, name and organization
2. Objectives for attending the Foundry
3. Capabilities and areas of expertise

This exercise will be useful for networking and team building.

**2:30-2:45 "Precanned" Projects**

Projects teams/groups can participate in or use to model their own projects after.

1. Project HALO
2. HALO Achievement
3. Other "Precanned" Projects

**2:45-3:00 Brainstorming Session -**

A "no-holds-barred" listing of potential projects.

**3:00-3:50 Foundry Participant Initial Project Presentations**

Participants who have pre-prepared presentations for the 2001 ISDC according to the handouts will pitch their project concepts. If there are few prepared presentations some of this time will likely be filled by spill over from the Foundry brainstorming session above.)

**3:50-5:30 NSS Roadmap Project Brainstorming Session**

Participants will look for opportunities to participate/cooperate with other projects and to recruit team members for their projects. Participation in this session may help enable projects to obtain NSS "Dream Book" funding which is above and beyond the money set aside for NSS chapter projects. The Foundry process which follows should enable projects for funding from both of these and other outside sources.

### **SATURDAY (AM): Parlor G**

**10:00-11:00 Team Formation**

Groups will be permitted to form teams according to projects of interest. Pre-formed teams may attract new members at this time. Teams will begin to refine concepts and develop plans.

**FOUNDRY WORKSHOP AGENDA**  
**(CONTINUED)**

**SATURDAY (AM): TBD Boardrooms (2 rooms available)**

**11:00-12:30 Foundry Team Workshops**

Teams will group-off to refine concepts and develop plans. Each Team will address the items in the handouts titled: Preworkshop Participant Considerations, and Foundry Project Tasks (from the materials above).

**12:30-1:30 Lunch**

**SATURDAY (PM): TBD Boardrooms (2 rooms available)**

**1:30-3:30 Foundry Team Workshops**

Teams will continue to refine concepts and develop plans according to the items in the handouts titled: Preworkshop Participant Considerations, and Foundry Project Tasks (from the materials above).

**3:30-4:30 Preliminary Team Presentations to Foundry Review Panel**

Each group makes a short presentation based on what they've managed to come up with by this time.

**4:30-5:00 Preliminary Foundry Review Panel Recommendations**

**SUNDAY (ALL DAY): TBD Boardroom (1 room available)**

**9:00-9:30 Open Participant Discussion of Projects Presented Saturday**

Participants will critique each others presentations and brainstorm potential improvements and potential cooperative arrangements between some of the projects.

**9:30-10:00 Team Reformation**

Teams aspiring for projects deemed exceedingly difficult may elect to join other teams.

**10:00-12:00 Foundry Team Workshops**

Teams are to refine concepts presented on the previous day, incorporating suggestions and networking as applicable.

**12:30-2:00 Lunch**

**2:00-5:00 Foundry Team Workshops - (Continued)**

Teams are to complete project presentations.

# ATTACHMENT C

## **MONDAY (AM): Parlor E**

### **10:00-11:00 Final Team Presentations to Foundry Review Panel**

Each group makes a short project proposal presentation. Each presentation should address all points required to support funding decisions. Participants will be informed how and when funding announcements will be made for NSS chapter projects. If the proposals are deemed complete some funding announcements may be made during this session.