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## **PRIVATE MARS LANDING: FAST RETURN ON INVESTMENT**

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### **Business, Politics, and Reality**

I am a research scientist, and in relation to a private mission to Mars I have already heard wails of horrified anguish from colleagues in the scientific community decrying commercialization of a mission to Mars. They are saying that advertising logos from McDonald's and Taco Johns pasted on the outside of a Mars spacecraft, children's action figures, television advertising jingles, and the sale of Martian gems and other materials demean this glorious planet, and that only pure science should prevail. They say the same of commerce on the Moon, and in Earth orbit. Space tourism is seen as the last word in insult to the pristine cleanliness of space.

As most of my research income comes in the form of grants originating from corporate profits and government taxes, I am well aware that research rides on the back of successful business and a broad tax base. I am therefore completely in support of private missions to Mars and the Moon, and vast new industries in space. I expect that eventually space tourism will dwarf all others combined. These new businesses will employ many millions of people both directly and indirectly. These employees and businesses will pay taxes, the businesses will earn profits, and from both sources will come the grants the pure science requires.

It is important not only to the private stockholders and advertisers of the venture to Mars, but also to the launching country's government that a private mission be designed for a fast initial return on investment. It is important to the stockholders because they want a return on their interests, and a fast return will bring in other investors. Fast returns are important to the launching country's government because there are many national gains to be made, both subtle and gross. In the subtle realm are gains in international stature, technological competitiveness, and geopolitical position. These are enormously important to a national government. In the gross arena, if a return is to be made, this return may become taxable at some point, and bring to the government additional revenues not available to other countries or from other sources. At all times, politics follows money, and governments will be swayed to protect private business ventures that might be of advantage to the launching country. That is politics, that is reality, and never changes. The mission to Mars will go, and it will garner more and

deeper support from the US government if it appears that other countries are also looking into such a venture. With the X-Prize program already begun, other countries and private firms are indeed interested and planning.

### **Sources of Private Funding: Investment, Advertising, Licensing, Television, and Sales**

From the start, the Mars mission project must function as a modern commercial entity. It must be streamlined, efficient, and have its actions dictated by the marketplace. It must advertise itself, produce as many viable high-quality commercial products as possible, get them onto the shelves by Christmas (so to speak), and abandon product lines when they are no longer profitable. It must stay constantly aware of the consumers' desires and values. This includes not only product cost and quality, but also other concerns such as mission safety, project effects on Earth and Mars environments, and similar issues. At the same time, it must weigh consumer concerns against fiscal reality and investors' desires. Creative partnering and planning can overcome all obstacles. The Mars Society must begin to nail down now every patent and copyright relating to the mission to Mars that it possibly can. These patents and copyrights will become of great financial importance as the Mars Society planning progresses.

#### **Investment**

Investment funds come from companies and individuals that purchase a financial interest in the project, perhaps in the form of shares of corporate stock. They put money into the project with the expectation of returns and profits comparable to their percentage share of the entire cost. These companies are often shareholding companies themselves, and are responsible in turn to their own shareholders for this money. A significant percentage of investor funding will become available when sound project plans are announced, and investors feel their participation is justified.

Investors will also want a significant portion of their investment insured, and that can be a difficult point for a mission never before tried. Insurers will have to be convinced, but that can be done with sound planning and sufficient premium. A large amount of initial investment may have to be dedicated to insurance for the mission.

Once hardware is being built and it looks as if the mission to Mars will actually happen, more investors will be attracted. Investment is a gradual and constant process, and it is all predicated on faith in demonstrated good management, fiscal responsibility, and technical feasibility. The abilities and ethics of the project managers in all three of these areas are paramount.

## **Advertisement**

Advertising funds come from companies and individuals who will not participate in direct returns from the venture, but will realize their profits from increased sales of products identified with the mission. In many cases, companies and individuals may be both investors and advertisers. Some advertisers will provide goods and services in lieu of or in addition to funds. These goods and services can include administrative automobiles for the project personnel and astronauts, clothing, food, hotel accommodations, and a host of other items.

Advertising funds can be accepted, well before any mission hardware is built, to feature sponsoring organizations' names and logos on letterheads, promotional materials, radio and television spots, and educational materials put out by the Mars project. Doing this allows other companies to see who is involved, and encourages them to join in with that group. As the project gets underway, the logos of investors and advertisers can appear on project administrative and assembly buildings, and mission hardware. The size of logos on these items can correspond respectively to the comparable amount of funding the advertisers have furnished.

The Mars project will find it advantageous, from the point of view of public relations and support for education, to provide free advertising for non-profit organizations such as the Boy Scouts, Girl Scouts, other youth groups, unions, and government agencies which are instrumental in assisting the project. This activity encourages the next generation of scientists; student space activity peaks the interest of parents; unions gain a measure of identification with the success of the project; and necessary government agencies and their personnel come to identify with and more fully support the project.

## **Licensing**

Funding can also be accepted in return for licensing commercial product companies to feature the Mars project in their own product design and advertising. This is where the mass market interest is, with Mars Society and mission logos and pictures on lunchboxes, action figures, model kits, towels, bedsheets, French-fry envelopes, children's fast food meals, notebooks, baseball caps, and thousands upon thousands of other products.

## **Television**

Television coverage of the mission take-off from Earth, flight to Mars, Mars landing, Mars exploration, return flight and Earth landing will be tremendously profitable.

Advertisers will be clamoring to have their spots during that coverage, and the television studios will be willing to go into the billions of dollars in trying to outbid each other to get broadcast rights. It will make funding from coverage of a baseball and the Superbowl look cheap by comparison.

### **Mars Project Sales**

The Mars Society can also engage in direct sales. Suppose, for example, that the first Mars landing vehicle will be a non-crewed sample return mission based on Dr. Robert Zubrin's Mars Direct scenario, for the purpose of proving out capabilities and safety issues for insurance companies. As this vehicle approaches Mars, the Mars project can produce items for sale in the form of photographs in a variety of wavelengths and through several filters for various effects. Professional photographic artists must be in charge of this. When it lands it will refuel itself with methane and oxygen, using the Martian carbon dioxide atmosphere and an on-board cargo of hydrogen. When the craft is ready to return, a small rover, or just scoop arms from the vehicle itself, can load rock samples. Earth-bound artists will be in charge of photography during this phase, and create as many products as possible. Artists will use these scenes as inspiration to create paintings, sculptures, and songs, also for sale. When the mission returns to Earth with its samples, some of these samples will be offered for sale or auction. Some samples will have to be offered gratis to government agencies for study, and this is no loss as it was necessary for government agencies to expedite the project in the first place. It may even be possible that national and state taxes on Mars project revenues may be reduced or eliminated by the government as an incentive to project success, and future commercialization of space, with an eye to future large tax revenues from such an industry.

Concurrently with the non-crewed mission may go a number of Mars exploration satellites for mapping the surface topography and mineral locations. Multi-spectral analysis of the light reflected from the surface, and other remote sensing devices, can map the surface for a great variety of minerals. The results of this work will have input to deciding where a first crewed landing is made. I draw your attention here to the Geochemical Atlas of Alaska on display in the vendors' room as an excellent mapping product. Such remote sensing will have great importance in determining where the first landing will be made.

When a crewed mission lands on Mars, it would be wise to have crew members who are not only technically proficient at their flight tasks, but whose skills are also optimized for locating or creating salable products. Among these skills should be painting, song-writing, sculpture, stone carving, photography, mineralogy, paleontology, botany, and other skills related to finding and creating objects, artifacts, and information of scientific value to be sold. The artistic items are not to be looked down upon. If good work, they can be expected to fetch enormous prices back on Earth. Artists actually

being on and experiencing Mars inspired their creation. Their prices will be especially high if they include Martian materials in their fabrication.

Based upon their chosen landing site, minerals, and natural structures in the area, the crew will have a prepared exploration plan so that they can cover as much ground as possible in the shortest possible time. They will be staying for several months, and will be able to cover a lot of ground. Their return ship will have been designed for the largest possible return payload. They might also have arranged for other, non-crewed spacecraft much like the original sample return craft to already be on the surface ready to be loaded. This will allow redundancy of mission accomplishment, allow space for all the materials which might be collected during the several-month stay of the Mars project crew, and create a stream of Martian materials returning to the Earth over the entire mission lifetime. Even simple quartz crystals, Martian sand, and lava rock will bring high prices on Earth, and even more so when incorporated into jewelry. The prices these fetch will pale beside the potential value of Martian diamonds, emeralds, and other precious stones and metals. All mineral samples will be in high demand by lay people and scientists, museums and schools. If fossils or actual life are found, these will command astronomical prices.

### **Mission Decisions**

Large shareholders will expect to have input to the project decision-making process to protect their investment. However, in the interests of efficient planning and control, the actual project planning decisions will have to be held within a very small group of perhaps twelve or fewer individuals, and they in turn will have to follow the final decisions of a single project manager. Corporations all understand this necessity. It is important that the controlling figure be someone who has demonstrated outstanding success in business. There may be scientists on his Board, but the Chairman must be a businessman.

### **Specific Sources of Funding:**

#### **Companies Dealing in:**

Aerospace	Fast Food	Hotels	Foundations
Universities	Major Art Galleries	Auction Houses	Clothing
Department Stores	Computers	Software	Games
Toys & Dolls	Jewelry	Automotive	Mining
News	Grocery	Plant Nursery	Equipment
Construction	Tourism	Theme Parks	Communications
Insurance	Paint	Tax Preparation	Bicycles
Toiletries	Optical & Cameras	Art Supplies	Recording
United Parcel Service			

**Advertising Given Free to:**

National Aeronautics and Space Administration  
 Department of Transportation  
 Department of Defense  
 Department of the Interior, US Geological Survey  
 Mars District, US Army Corps of Engineers  
 Girl Scouts of America  
 Boy Scouts of America  
 4-H Clubs of America  
 National Space Society  
 Planetary Society  
 National Space Foundation  
 World Future Society  
 Smithsonian Institution  
 Kansas Cosmosphere and Space Center/Space Camp  
 Alabama Space and Rocket Center/Space Camp  
 Challenger Center  
 Astronaut Pilots' Association  
 Other organizations from whom support is valuable

**Additional Sources of Funding for Follow-on Missions**

US Mail: One probable source of funding in servicing a base on Mars will be a private contract to carry US and other countries' mail to and from Mars. The logo of the US Mail should appear on the side of second-generation Mars ships. While simple messages will certainly go electronically, there will also be a need to provide transportation for official and private packages, cards, and hard-copy letters. The US Mail will undoubtedly gain large revenues by selling special postage stamps featuring Mars, though perhaps not the mission itself as they say that they cannot feature anything related to commercial enterprises. Please note that on 1 October 1998 a set of five panoramic postage stamps, 32-cent denomination, of the permanent settlement of Mars will be issued. The Mars Society needs to encourage as many people as possible to use these as a way of encouraging public knowledge and support of the Mars Society and its goal.

Stores on Mars: Once a permanent base is set up, and shuttle flights to and from the base are operating, the personnel at the base will want to have the foods and other shopping amenities with which they were comfortable on Earth. At this point the fast food franchises, small outlets of major department stores, and other sales concerns will open up. They will pay large amounts for exclusive franchises, and they will probably charge large prices for their products. After months on freeze-dried Astronaut Ice Cream and entrees resembling US Army Meal Ready To Eat, they will be perfectly willing to pay eighty dollars for a cheeseburger, French fries and a soda.

Hotels on Mars: Everyone knows what living quarters are like on the Space Shuttle, with very little privacy. Something like a berth on a Navy submarine. Personnel on Mars will be willing to pay a high proportion of their salaries for better quarters at the Mars Hyatt or similar commercial facility.

Worldwide Investment: As Mars facilities become a success, more and more people around the world will want to become a part of this adventure into space, the endless frontier. The shareholder base will become international in scope, with proportionate investment.

## **Summary**

Carefully planned, with thorough commercial acumen and sound business practices, the Mars Society can give rise to the most successful business enterprises the world has ever seen. A new world awaits us, an entire planet. It is unmined, untrekked, with vistas never before seen and perhaps snow slopes that have never felt the touch of a downhill ski. We can fix that! Untouched since the beginning of time, humanity will come to explore, research, and live. Perhaps some of us will go there. We will certainly see our children go there. Our pilots of the purple twilight will drop down with costly bales, and, if we are wise and careful, our retirement will have a firm foundation in the Barsoom City Martian Stock Exchange.