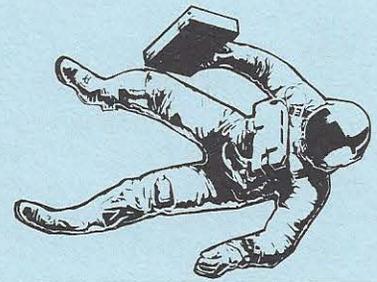


THE  
**COMMERCIAL  
SPACE REPORT**



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Dear Subscriber:

May, 1982

The Space Transportation Company, Inc. As reported in the June, 1981 Report, a private financing company is making a significant effort to privatize certain functions of the Space Shuttle system.

The Space Transportation Company, Inc. was organized in 1979 by the investment banking firm of William Sword and Co. Inc. of Princeton, New Jersey. William Sword, founder and Managing Director of the banking firm, is Chairman of STC's Board of Directors. The president is Dr. Klaus P. Heiss, an Austrian economist and chairman of the board of Econ, a consulting firm to various aerospace companies. Heiss has some experience with the Space Shuttle, having done an economic analysis of the shuttle program in the 1970's that NASA used to arrive at the current design.

STC's plan is as follows: STC will fund the construction of a fifth Orbiter, a layout of approximately \$1 billion. (At present, government financing of Orbiter 5 is doubtful.)

In return for this, STC will take over from NASA all marketing of the entire five-orbiter space transportation system to commercial and foreign users. STC will pay NASA all costs added to the Shuttle system as a consequence of such commercial and foreign use. Fixed costs would not be absorbed by the company. This means that STC would pay for such items as solid booster refurbishment, consumables, and external tanks, while NASA would still pay for things like pad maintenance and other routine activities. A similar arrangement exists between the Department of Defense and NASA for DOD launches. STC believes the DOD/NASA cost split to be about 50/50. At \$60 million (1982 dollars) per flight, this would mean the company would have to pay NASA \$30 million for each mission.

STC, along with the Boeing Company, has been studying the concept of privatizing the Shuttle. Boeing has been examining similar concepts since 1978. (It is not yet clear whether the two companies will be cooperating in any way in this venture.) STC analysis indicates that NASA may be flying up to 24 missions a year, and that the commercial and foreign payloads STC is after may comprise about 20% of these missions.

STC submitted its preliminary proposal to NASA in February, stressing that many details still have to be worked out. NASA Administrator James Beggs has remained non-committal up to this point. If STC is successful in this venture, it may examine financing other aspects of the space transportation system such as the external tank construction at Martin Marietta. There may even be a potential for financing other orbiters beyond the fifth one.

Space Services Inc. Eyes Atlas-Centaur. Word is that Space Services of Houston is checking into the possibility of purchasing Atlas-Centaur booster combinations from General Dynamics. An Atlas-Centaur is capable of putting about 11,000 lbs. into low earth orbit, or 4,400 lbs. into geosynchronous transfer. It seems a risky proposition--if SSI makes private Atlas-Centaur launches look attractive enough, there is no reason I can see why General Dynamics shouldn't do it on its own and eliminate the middleman.

JSC Director Retires. Christopher C. Kraft Jr., 58, is retiring in December as director of the Johnson Space Center in Houston. He will be replaced by Gerald Griffin, who is presently vice president of Scott Science and Technology, Inc. Kraft has been with the space program since 1945, and was flight director for all Mercury and some Gemini missions. Kraft resigned at the request of NASA administrator James Beggs, apparently in order to bring in personnel who are more appropriate to Beggs' concept of the future role of JSC. This role seems to be one which will reduce JSC participation in future routine operations of manned space systems (i.e. the Shuttle).

First American Woman Scheduled for Shuttle Flight. Space Shuttle mission 7 will fly in April, 1983 with mission specialist Sally Ride on board. Ride will be the first U.S. woman astronaut to fly in space. At 30, she is also the youngest of 78 active astronauts. The flight is scheduled to be aboard the space shuttle Challenger, the second flight vehicle to roll off of Rockwell's production lines. On this flight, Challenger will carry assorted satellites and instrument packages. Robert Crippen, pilot on the first shuttle mission, will be commander on this flight.

Flights 8 and 9 will be commanded by veterans Richard H. Truly and John W. Young, respectively. Flight 9 will be the first flight of the European Spacelab.

SSME Engine Fire Delays Challenger Test. Space Shuttle Main Engine #2013, undergoing a power test at 109% thrust level, caught fire and was destroyed. Damage to the test stand will delay certification testing of Challenger's engines by about a month.

Salyut 7 Launched. The Soviet Union advanced its space station program again on April 19 with the launch of Salyut 7. The new space station is an improved version of Salyut 6, possibly including a new modular design allowing docking with a large number of additional modules. A two-man crew will be launched soon to set up the station. A full 3-man crew, including a French astronaut, Jean-Loup Chretien, will be launched later, near the end of June. Sometime between the two manned missions an unmanned Progress vehicle is expected to be launched to the station. Salyut 6 remains in orbit, docked to the space weapons system Cosmos 1267 (detailed in the December, 1981 Report.)

The Soviets are running us off the field in the space station department. Although considerable pressure is being raised for an American space station, we are going to have to overcome a hell of a lead. If it is true that Salyut 7 is a modular system, it appears that the Soviets are only a few minor steps away from construction of a large space facility capable of housing numerous cosmonauts.

My major concern is not that the station will be a military threat, although there is no reason to assume that it will not be

eventually armed like Salyut 6. It is rather the vast amount of exclusive experience that the Soviets will acquire in the business of living and working in space--experience and techniques that will one day be essential to commercial space exploitation by free enterprise. The naive may have hopes that the Soviets will not be secretive about this hard-won information. After all, they are fairly cooperative about scientific data, aren't they? However, it must be remembered that the Soviets are under a great deal of economic pressure as well as military pressure--perhaps even more so. It seems likely to me that they will find it as essential to conceal lucrative industrial processes and techniques as it is to conceal military secrets.

Anyway, face it. A capitalist would look rather silly claiming that he had an "equal right" to the fruits of Soviet socialist efforts. No, the only way to stay in the race, a race which is as much economic as it is military, is to build our own stations and soon.

There is, of course, a school of thought that says that the Soviets, (or any other nation with a centralized, planned economy) could never be an economic threat to a nation of free enterprise. The Soviets are all guns, they say, and no butter. Even a decisive lead in space manufacturing and exploitation would be useless under their crippling regime.

This may be true. I might even bet on it, but not my shirt. In any case, Satellite Week (April 26, 1982) reported that the Japanese have a concept for a manned communications space platform. A large station, with a 20-man crew, it would be a giant computerized switching center serving all of Southeast Asia. Do I hear anyone claiming that the Japanese could not be an economic threat to the United States?

A promising sign--NASA administrator James Beggs has invited the Japanese, along with the Europeans, to participate with the U.S. in work on an international space station facility. The project is not yet approved by the administration, but it's a start.

U.N. Votes to Adopt Law of the Sea Treaty. An international Law of the Sea treaty was overwhelmingly adopted by the United Nations on April 30. The vote: 130 to 4 with 17 abstentions. The treaty contains a number of provisions, including various rules on boundaries and rights of ships to pass through straits. The controversial issues relate to controls on private exploitation of ocean resources, such as mining of deep-sea metallic nodules. The treaty, reflecting the typical U.N. disdain of private property, would place such activities under the rule of an International Seabed Authority, and includes such features as price controls and forced dissemination of private industrial know-how to the Authority. Third World nations are in support of the treaty, which will require only 60 countries to ratify it to bring it into force.

Although not specifically related to space, the Law of the Sea Treaty may set important precedents for future negotiations on the process of exploiting extraterrestrial resources. A Sea Treaty which is unfavorable to private enterprise will increase the likelihood of international restrictions on similar activities in space.

Although few countries voted against the treaty or abstained, those which did are critical to the future of the treaty and may hopefully render the document eventually impotent. Voting against

were the U.S., Israel, Turkey and Venezuela. Abstaining were Britian, Belgium, the Netherlands, Italy, Thailand, Spain, Luxembourg and West Germany. Interestingly, a large communist bloc also abstained: the Soviet Union, Byelorussia, the Ukraine, East Germany, Czechoslovakia, Poland, Hungary, Bulgaria and Mongolia. (The U.N., possibly out of respect for tradition and history, continues to list these as separate nations.)

The motivation behind this slap at the Third World by what is normally its biggest cheering section is not quite clear. It may be simply that Glorious Marxist Phrases such as "the common heritage of mankind" do not come tripping as easily off the tongue when megatons of strategic seabottom metals are waved in front of socialist eyes.

Space Licenses Proposed. While on the subject of controls: Senator Howard W. Cannon (D-Nev.) has proposed licensing for private launch of space objects. Such licensing would be under the control of the FAA. Further information and analysis will appear here as soon as a copy of the legislation becomes available.

Ghost in the Machine. Recently, someone pointed out a bug in the word processor I use to output the Report--something in the system intermittently causes the numeral 6 to multiply, becoming 66 or 666. These extra digits are somehow added between the computer and the printer, and never show up on the CRT display. Having a simple faith in my machinery, I have normally never made more than a cursory check to see if what is on the printer matches what is on the screen.

The idea has been raised that superfluous sixes may indicate possible demonic possession of the computer. I have refrained from completely debunking this idea as it may, in the future, allow me to pass the blame for any gross typos or lousy writing to Sinister Forces in the machinery. There is, after all, a precedent in certain tape recorders.

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Until next time,



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