

PROFILE

Jeffrey Manber

MANAGING DIRECTOR, NANORACKS LLC

Time for a Commercial Break

For two decades, Jeffrey Manber has been focused on a single goal: to create a climate in the United States where commercial space enterprises could flourish. In the 1980s, Manber established the first commercial space investment fund for Shearson Lehman Brothers in New York, before moving to Washington to set up the U.S. Commerce Department's Office of Space Commerce.

While working in Washington, Manber traveled to the Soviet Union for the launch of a U.S. pharmaceutical experiment destined for the Soviet Mir space station. During that trip, he developed relationships that led to his next two jobs: managing director of Energia Ltd., a U.S. office of Russia's NPO Energia; and president of MirCorp, a company that

signed up commercial customers to use Mir until the Russian government opted to deorbit the space station in 2001.

Manber said the experience he gained marketing Mir has been tremendously helpful in establishing Houston-based NanoRacks LLC. Since 2009, NanoRacks has been offering customers the chance to send research payloads to the international space station. In June, NanoRacks announced plans to market space for people and research payloads on Alliant Techsystems' Liberty commercial spacecraft. NanoRacks also is working with Virgin Galactic to build equipment to carry research payloads on SpaceShipTwo.

Manber spoke recently with *Space News* correspondent Debra Werner.

How is the climate in the United States for commercial space enterprises?

We've made remarkable progress since the collapse of the Soviet Union. Our Russian friends moved rapidly to support commercial ventures. Slowly, the United States has been moving in that direction, realizing that it's OK for NASA to purchase goods and services from the private sector.

How would you rate NASA's current support of the commercial space industry?

It's surprisingly good. The role of the space agency with respect to the private sector is changing. Large groups of people both at NASA headquarters and at NASA field centers understand that. I'd say the place where we still have the most difficulty is in Congress. There are still people there who view the space program as a jobs program.

What impediments remain to a real, healthy commercial space program?

The chief problem, in terms of low Earth orbit and in terms of manned space operations, is that NASA is saddled with a system that is not cost efficient.

The NASA system was designed to prevent a third shuttle accident. They are slowly moving toward the recognition that they are no longer burdened with the responsibility of running the shuttle program. At Johnson Space Center, we are seeing reorganization of how they do payload integration, which I applaud. But NASA is still running itself as if it still was responsible for the shuttle program and for the lives of those seven astronauts.

So it's all about the safety?

Yes, to a degree that can only be rationally explained by the two tragedies and the determination to prevent a third. The system has not yet fully grasped that NASA is free from that responsibility.

NASA has responsibility today for the lives of the astronauts on the space station but it's far different from the responsibility of operating the space shuttle. When you look at the safety record of Soyuz, Mir and the international space station, you see that there is a lot of cost efficiency and regulation reduction that could be done.

At NanoRacks we are focused on low cost and speed. We are averaging nine months from signing a contract with a customer to launching a payload. We are getting through the NASA safety process in six months. It should be half that.

What is your vision for NanoRacks?

We identify niche markets in low Earth orbit and beyond that are commercially viable. As you see more demand in sub-orbital transportation, low Earth orbit transportation and asteroid mining, we will look for niche markets.

For the time being, we don't see ourselves as the team

leader. We are not there yet. But when someone needs a service, we believe we can deliver it as quickly and as safely as anybody on the planet right now.

Is NanoRacks making money?

Yes. In our first year, 2011, we had income from operations, which is extraordinary in a commercial space company. This year, we already have income of over \$3 million. We will do our second round of financing in the fall.

We have an exciting development where we are reaching out to Astrium NA to manufacture an external [space station] platform. That's a significant development for us. It puts us in an entirely new market and is our first step outside the station.

Is NanoRacks profitable?

We are growing. If I showed profits at this point, I'd be doing something wrong. About 30 percent of our revenue is being reinvested in new programs and hardware. We just announced the payload tracker software.

What's that?

We identified a problem: tracking payloads through the NASA system. We made an investment in developing software that will allow multiple stakeholders to track individual payloads through the NASA system. We hope to have it commercially available in October.

You have often said the Shearson Lehman space fund lost every dime. Could a fund making investments in commercial space succeed now?

There probably are only a handful of pragmatic investment opportunities in low Earth orbit. So, no. It's still a little too early for that. It's the Holy Grail.

Early microgravity research did not produce the extraordinary results that some customers anticipated. Does that research still look more promising?

Yes. Twenty years ago, you had NASA deciding what research would fly. Now you are beginning to have the market push promising experiments.

Twenty years ago, we were completely dependent on the shuttle program. Today, we have a multiplicity of cargo vehicles. Now, commercial customers who have done research in 1 g and want to obtain data from research in zero g can do that. The cost is compatible with doing research on the ground. In 2014, we will start to see a number of new, serious researchers coming to the space station.

Why?

Because companies are gaining greater access to [space station] research facilities and the space agency has an enlight-

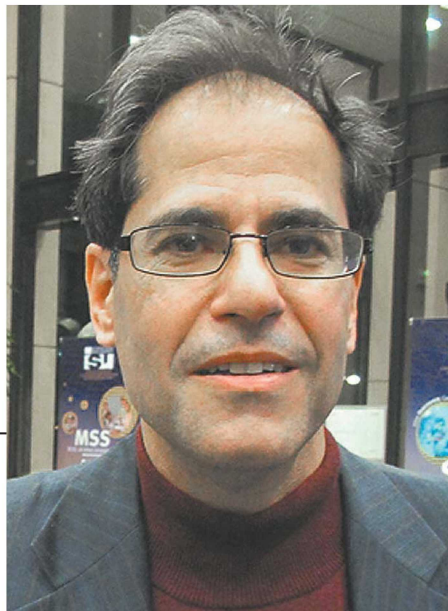


PHOTO BY CHRIS WELCH

ened pro-commercial policy. Twenty years ago it was unclear who would own the intellectual property for research conducted on the space station.

You are an advocate for free trade in space commerce. Is there any progress on that front?

No. The space station remains the most bizarre relic of protectionism. If it were on the ground, no one would suggest that the Japanese only use Japanese services and the Europeans only use European services and the Americans only use American services.

The international space station should be part of the World Trade Organization, so that anyone can bid on building new hardware. The result would be lower prices and quicker construction. Governments are inefficient and protectionism encourages inefficiency to flourish.

What are your thoughts on the nonprofit agency selected last summer to manage the space station's U.S. national laboratory, the Center for the Advancement of Science in Space (CASIS)?

It's incredibly important for CASIS to succeed. Any failure of the nongovernmental organization operating the space station would be jumped on by opponents of manned space as an opportunity to cancel manned space programs. The utility of the space station should be, must be, a central goal of all people who believe in an American space program.

We cannot dream of asteroid mining or going to Mars until we show critics that we know how to use that which we have. All of us made a promise to Congress when the station was being built that we would use it. And by God, we have to use it.

How is utilization right now?

The Americans are taking the lead right now in utilization because NASA had the foresight to wrap up agreements with other nations to use their cargo mass capacity. NASA and those who are signing agreements with NASA are able to use the European, Japanese, Russian and commercial American cargo systems.

As CASIS begins to gather momentum, basic research and some applied research will come online. One has to remember that in the previous presidential administration, the space station was scheduled to deorbit in 2015 and funding for basic research was terminated. It takes government a while to ramp that back up. I think NASA is doing an adequate job.