

EVA Interviews Hoyt Davidson, Managing Partner of Near Earth LLC



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Welcome back to EVA Interviews: The Business of the new Space Age™ as we leave the Lunar Editions and return to Earth orbit. Our next guest is [Hoyt Davidson](#), Founder and Managing Partner of [Near Earth LLC](#). Near Earth specializes in providing [Investment Banking](#) and [Advisory Services](#) to companies and investors in the commercial Space, satellite, telecom and aerospace industries. Hoyt Davidson has extensive expertise in Space financing, and has many insights into the emerging commercial Space sector to share with us in this very informative discussion.

EVA: Welcome Hoyt! I'm delighted to have you join us at EVA Interviews and Out of the Cradle. I am really looking forward to our conversation and hearing your unique perspective on Space commerce, the industry and Space investment activities! As these interviews are about Space, as well as the economic aspects of our exodus Out of the Cradle, I like to begin by asking about Space. You operate an investment bank specializing in, among other areas, satellites, and you write extensively about commercial Space activities in your newsletter. Which came first? Have you always had an interest in Space or was the creation of Near Earth LLC exclusively a business decision? How did you decide to open a firm with such a unique specialty?

Hoyt Davidson: Growing up as a boy in the Apollo era, I guess I caught the Space "bug" early and really have had a strong interest in science and exploration all my adult life. I was a physics major undergrad at MIT and my first job out of college was designing satellites at Lockheed. Having been tempted by Wall Street after getting an MBA, I left behind my Space interest to develop finance and banking skills. Luckily, in the early to mid 1990's, Gerry Gorman, one of the senior bankers I was working with at Donaldson, Lufkin & Jenrette (DLJ), was looking to move out of [project financing](#) alternative energy projects and start a new coverage group. Gerry and I felt we could also project finance satellite companies, which like energy facilities produced a valuable commodity, in this case telecommunications bandwidth, from long duration and high value assets (i.e. large capital requirements and lots of banking fees). It turns out we could not project finance these satellite companies, but there was an ability to provide traditional corporate financing services. DLJ had a remarkably entrepreneurial culture for an investment bank and senior management gave us their blessing to start what we called the Space Finance Group. This was the first dedicated industry coverage group on Wall Street focused on financing and providing investment banking services to commercial satellite companies. This group did the first IPO of a satellite company, American Mobile Satellite Corporation, the parent of what would later become XM Satellite Radio and SkyTerra. It also did the first high yield offering, which was for PanAmSat, the first non-IGO FSS company and led all of the financings for Echostar. Gerry left during in the late 1990s to start a dot com company and was replaced by Dan Flatley who had been a senior high yield banker. Together Dan and I grew the group to 12 bankers and completed over \$25 billion worth of financings as well as some major M&A work such as the sale of Comsat to Lockheed. We enjoyed a #1 market share in this sector for many years. Our Space Finance Group went over to Credit Suisse First Boston when it acquired

EVA Interviews Hoyt Davidson, Managing Partner of Near Earth LLC

DLJ in 2000 and became part of the Telecom Group. When the Telecom bubble burst in 2002 our group was disbanded, which is when I founded Near Earth LLC. Near Earth was always meant to have a heavy focus on the commercial Space industry although today we also get involved in tangential areas such as aerospace, wireless telecom and in particular sectors such as M2M, UAVs, and geospatial businesses. In our view, these business sectors all share one very important thing in common; they will all be much larger in 50 years than they are today and that will require investment banking services. They are also entrepreneurial sectors comprised of hundreds of small companies that can not easily get the attention of larger investment banks.

EVA: Hundreds of small companies also often have a need for Merger & Acquisition (M&A) services as the industry grows and consolidates. Are you the only niche investment bank with a satellite and commercial Space focus, or do you have competitors in this market?

Hoyt Davidson: I do think we are the only niche investment bank focused on satellites and commercial space, but that does not mean we do not have plenty of competition. Most investment banking boutiques of our size are M&A specialist shops with generally a regional focus serving almost all industries. They compete primarily on their M&A deal expertise and local relationships, not industry expertise. There are also some small shops that like us have a national and occasionally international footprint which focus on industry sectors which overlap our coverage areas, such as aerospace/defense and Media/Telecom. There are also the mid-sized and bulge bracket banks which tend to do almost everything and everywhere and in this economy are increasingly looking at the small cap and middle market deals that are the life blood of small niche boutique banks like ours. So, yes we are unique, but we have no shortage of competition. What we offer a client is the industry expertise they will not get at a traditional M&A boutique, which we believe is of crucial importance to understanding, valuing and marketing a business, and the senior level focused attention that their small deal size will not get them at a larger bank.

EVA: In this highly competitive and sophisticated industry especially, such expertise and understanding is crucial. The Space industry is complex and frequently seems misunderstood. I have often observed a disconnect between the satellite industry and the Space industry at large. It rarely seems to describe itself as a Space industry and often commentators bemoan the lack of money made from Space – as if they forget that the satellite industry exists and is perhaps the preeminent commercial Space industry, providing significant profits to its shareholders and benefits to society as a whole. Can you comment on that, Hoyt?

Hoyt Davidson: I certainly agree and we see the commercial satellite industry as part of the larger space industry, but many of the satellite operators believe they have more in common with their terrestrial competitors than with other commercial satellite companies, especially those involved in civil or military focused businesses. These operators focus more on their customers and applications than on the fact that their enabling infrastructure happens to be in space. In fact, there has been an

EVA Interviews Hoyt Davidson, Managing Partner of Near Earth LLC

ongoing debate within research departments at investment banks as to whether it is best to cover satellite companies as a group because they are all space businesses or to split the coverage according to what end user markets they serve. For instance, should DIRECTV be covered by the cable TV analyst, Sirius XM by the radio analyst and Intelsat by the telecom analyst? While that seems logical it also misses the point that the satellite companies do share many business risks that are unique and different from their terrestrial competitors. It can help to have common coverage of the sector by someone who appreciates these fundamental differences. So far the way it seems to be breaking out is that those satellite businesses providing a consumer media service, such as direct to home satellite television or satellite radio, tend to think of themselves as media companies first. Those satellite companies in the satellite telecommunications value chain tend to still think of themselves as mostly satellite companies competing with telecom companies. They generally show up at satellite conferences, not telecom conferences. However, increasingly telecom networks are becoming hybrid satellite and terrestrial, so these sectors should start to blend together, especially when rumored or hoped for acquisitions start occurring. The biggest disconnect, however, is between the commercial satellite providers and those selling to NASA or the military/intelligence communities. This difference in customers means vastly different business models in terms of contracting and technology development. We generally see little overlap of these space industry participants other than at the integrated aerospace/defense companies that build for both sectors (e.g. Boeing, Lockheed). As for money being made in space, the commercial satellite sector has clearly proven itself over the last decade and the aerospace/defense companies continue to prosper. What we think is worth watching is the new emphasis coming out of NASA to support commercial companies for space exploration, not just satellites orbiting the Earth. This is very exciting and with potentially billions of dollars each year being reallocated from the Space Shuttle, manned missions (i.e. Constellation) and building the International Space Station, there should be significant funding available to grow a very entrepreneurial commercial space sector. SpaceX is the most public and successful of these new companies, but there are many more.

EVA: Indeed, the recent new emphasis out of NASA is very exciting! An unprecedented opportunity is being created. I hope we rise to this occasion and fulfill the potential this new direction is giving to the developing entrepreneurial Space sector.

Hoyt, you've spoken at [several Space Investment Summits](#), write often in your excellent newsletter [From the Ground Up](#) about entrepreneurial commercial Space activities, and are financial advisors to one of the [Google Lunar X Prize](#) teams – Odyssey Moon. Can you tell us more about your experiences with the entrepreneurial Space sector?

Hoyt Davidson: My experiences have been a very mixed bag of successes and failures. The bottom line is that "Space" is hard. You have all of the same financial, market and competitive risks of any other business, plus all of the extra investment, expense and challenge of operating in space. For entrepreneurs to be successful they have to be both intensely passionate about their objectives and at the same time smart and pragmatic about what can be accomplished in the real world and, in particular, what investors need. That can sometimes be a rare combination in a

EVA Interviews Hoyt Davidson, Managing Partner of Near Earth LLC

space entrepreneur. When it does happen, say with XM Satellite Radio, PanAmSat, EchoStar, and Wildblue, you end up with a major new service benefiting millions of people, but even with these examples success generally came after many obstacles and set-backs and in part was achieved because the firms won valuable spectrum licenses and orbital slots. In some cases, new satellite companies had to go through painful bankruptcies or balance sheet restructurings before achieving a sustainable business; companies like Iridium, Globalstar, ORBCOMM, Sirius Radio and the predecessor companies of GeoEye and Digital Globe are examples. In these cases it paid to be the second owner, not the founder. On the space exploration side of commercial space as opposed to the commercial satellite sector, success has been even harder and rarer. Until recently, entrepreneurial activity in this sector has been more a labor of love than money. But then you had Burt Rutan winning the Ansari X Prize leading eventually to a deal with Virgin Galactic and then a \$280 million investment from Aabar for 32% of that company. Perhaps even more amazingly, you have Elon Musk and SpaceX doing what stumped many space entrepreneurs for over a decade; actually getting a 100% commercially financed rocket into space. Even here though, SpaceX talks about its pre-COTS and post-COTS phases. The \$278 million COTS award from NASA came just at the right time to take the business to the next level and the subsequent billion dollar plus of contracted backlog for ISS cargo re-supply has positioned SpaceX to be a major supplier of more affordable launches for the entire space industry; if Falcon 9 can be brought to market this year. In commercial Space, there is frequently a big "IF" hanging out there. However, I do think we are on the edge of an exciting new era of commercial space. It is 53 years from Sputnik and 41 years since the Moon landing. Technology has advanced astoundingly during this period making space exploration, at least with robotics, well within the reach of entrepreneurial firms. The sky is no longer the limit. It will not be easy and I believe it will still most often require some support from government, but thankfully government seems to have learned that there is a vast reservoir of talent and money they can leverage if they can get the public / private partnership right. The other lesson learned is that better is not always best, especially for tax payers. Sometimes faster, cheaper and good enough is better than gold plated, behind schedule and over budget. That basic trade is what space entrepreneurs and commercial firms have to offer.

EVA: What is your perception of investor interest in entrepreneurial Space companies, Hoyt? Are they watching for the right type of public/private partnership? Is that COTS or is there another model you believe they would like to see developed?

Hoyt Davidson: Much of the private investments in commercial space in the last decade or more have come from wealthy space enthusiasts. Sadly, these have tended to be one-off investments for pet projects as opposed to a collective and diversified funding source for entrepreneurial space companies. Survival and progress therefore ends up being driven more by the resources and commitment of the billionaire founder than the competitive merits of the business itself. At Near Earth, we are toying with the idea of starting a space focused venture capital firm to fill this very need and tap into a growing interest in space commerce. At present, few institutional investors, like venture capitalists or private equity firms, even have entrepreneurial space on their radars. Some are watching from the sidelines, but few today feel they have the in-house capability to evaluate space deals and add value.

EVA Interviews Hoyt Davidson, Managing Partner of Near Earth LLC

However, the investment interest in commercial space companies is certainly growing and much in the news. The biggest obstacles to attracting money from these traditional private investors is the perceived risks of operating a space business, the uncertainty in new space business models and addressable market sizes, perceived technology development hurdles and the historical reluctance of many private investors to get involved in sectors heavily influenced by the Federal government's budgets and decisions. That last point goes to the importance of supporting new public/private initiatives to develop a track record of government working effectively with the commercial sector and not just competing against it with a fat wallet. In addition to financial support, the government can also be a great validator of business models, technology solutions, and market demand. Government's support, which often comes after head to head competitions and/or in depth studies, can also provide seals of approvals for the winning management teams. That was the beauty of COTS. COTS was a competition where NASA evaluated management, technology, business models and private financial support to pick winners that were then not only given material funding grants (no equity attached), but also large follow on contracts for services. Other means of government support can also be helpful such as prizes for achieving stated objectives and technology development grants, but these have often been grossly undersized for the tasks at hand and have not generally reflected the savings to tax payers or benefits of having the work funded and achieved primarily by the commercial sector. As more success stories like COTS happen, the institutional investor community will feel more comfortable making investments and less government support will be needed. There are many in the commercial space community that would violently disagree with these statements. These are the purists who believe any government support is corrosive and should be avoided at all costs. Going back to my earlier statement that "Space is hard" I just fundamentally disagree with these purists. It should not be about "New Space" versus "Old Space" and government funding versus pure private funding, but about "Smart Space". To me "Smart Space" means (1) letting government funded aerospace firms do what only they can do, which for the next 10 to 20 years will be most of the truly heavy lifting like manned exploration and Mars landings, and (2) letting commercial space with a blend of private and public support build an increasingly stand-alone commercial space industry to develop systems and services for Earth orbit and robotic exploration of the easier to reach moons and celestial bodies in our Solar System.

EVA: And "Smart Space" may involve a Near Earth Venture Capital subsidiary to finance these commercial activities in near Earth orbit? You'll have to let us know more about that idea – especially if it moves from the "toying" stage to reality!

There are so many ideas the Space industry has for future activities, if only access to Space was assured, reliable and less expensive. Based on your familiarity with the satellite industry, do you feel there would be a market for human servicing of their assets in GEO and/or orbital debris clean-up? Is there another need that is more critical?

Hoyt Davidson: Right now, Russia is charging tourists \$30 million each to get to ISS and have suggested they intend to charge NASA \$51 million each for astronauts. That is actually a huge savings over what a Shuttle launch would cost or even what

EVA Interviews Hoyt Davidson, Managing Partner of Near Earth LLC

Constellation would have cost. The \$30-\$51 million price per person is hopefully a level that U.S. commercial suppliers will be able to match or beat in the not too distant future, so we can control our access to space. I believe SpaceX has suggested they may offer services for \$20 million per person. But in any event, we are still talking about tens of millions to get a single person to low Earth orbit. Unless there is a major breakthrough in propulsion technology, I think we are realistically left with the rocket equation and the high cost it represents for many years. Adding the transport of humans simply raises the safety and reliability standards of rocket launch and pushes the price up versus unmanned missions. So, my recommendation would be to take advantage of the amazing strides we have made in robotics, telepresence, electronics miniaturization, sensor technologies and automated systems to do as much as we can in space without humans. My generation finds this solution unsatisfactory at a visceral level, but students and younger generations get it. It is almost a "Duh". If a virtual pilot sitting in a trailer in New Mexico can maneuver a UAV in through hostile territory and complete a complicated mission, why do we really need humans servicing assets in GEO when the cost of human transport and life support is so high? There will come a day when having a permanent human servicing capability for GEO makes sense, but I don't think it is this decade. Oddly, I think it will make more sense to first create a permanent human presence on the Moon as one of the primary purposes for having humans on the Moon is to do science which often involves responding intelligently to unexpected new information versus refuelling satellites in GEO or fixing hardware problems. As for orbital debris clean-up I have not seen any solutions yet that make economic sense. I would also add that despite the large amount of press it gets, the key problem seems to be the burden and complication of tracking the debris, providing adequate warnings to operators and then maneuvering the satellites, not the actual risks the debris entails. Having spoken to two of the largest insurers of launches and satellites, neither have even tweaked their premiums to cover an increasing threat of in-orbit collision, despite the recent Iridium / Russian satellite incident. Perhaps the best policy the world can adopt is more stringent de-orbiting regulations. I would also suggest we should start designing space hardware to be reusable and develop plans for de-orbiting to Lagrange points for storage and future redeployment versus atmospheric re-entry.

EVA: I agree, relocation to a Lagrange point makes far more sense than atmospheric re-entry. Any materials already in Space that can be relocated, re-used and recycled save transportation costs from Earth and eliminate the risk of incomplete burn upon re-entry in Earth's atmosphere. Plus economics and technology are not the only challenge to orbital debris mitigation, there are [legal issues presented by the lack of salvage rights in Space](#).

A permanent human presence on the Moon... I too would love to see this! ([As would the Moon](#).) Do you feel that the Google Lunar X Prize will be won? What do you foresee as following, assuming it is won?

Hoyt Davidson: I do think GLXP will be won and it is great that Google has lent its good name and cash to the pursuit. The technologies involved are really not pushing the envelope and there is nothing like a challenge (and money) to get the competitive, innovative juices flowing. But, regardless of whether or not it is won, we

EVA Interviews Hoyt Davidson, Managing Partner of Near Earth LLC

humans will one day live and work on the Moon. It is as inevitable as the colonization of America after Jamestown and Plymouth Rock, even if a few years do slip away. Times are tough and many Americans see Moon exploration as less of a priority (been there, done that), but millions and millions as Carl Sagan used to say, think differently. China, India, Europe, Russia and Japan all have missions planned for the Moon. Iran is launching satellites and I read today that Bolivia has created a space agency --- Bolivia! Even if we Americans decide to sit out the next space race, which I don't think we will, it would not mean there wouldn't be one. Perhaps China will want to put a citizen on the Moon just to lay claim to the leadership role for the 21 century. Maybe, as many preach, the next manned visit will be a multi-national endeavor to share the cost and the glory. That would be great. Another possibility is that the next person to land on the Moon is greeted by his robotic butler who shows the astronaut his new underground home (with Moon roof), how the remotely operated lunar observatory works and where the mining equipment is parked, all before cooking a dinner using home grown hydroponic vegetables on a hydrogen powered stove.

EVA: Now that is an enticing possibility! And a major challenge for robotics firms!

One last question for you: Let's imagine that we are revisiting this conversation as we float in Space ([see FAQs](#)) for real - What additional actions would you personally like to have taken between now and then to help make our exodus Out of the Cradle a reality?

Hoyt Davidson: I do hope we exit the Cradle in my lifetime, but I imagine I am much more likely to read about it or watch it than directly participate. Not sure I have \$20-\$30 million to spare just now. When I was a boy and saw 2001 - A Space Odyssey, I thought how cool it was that I lived in an age that would allow me to "float in Space" one day. It was our technological destiny. When 2001 passed, I joked that maybe Kubrick put the "one" in the wrong place and it was really 2010. Now that 2010 is here and the dream is still in the future, I am wondering if the real date is 2100. I hope not, but the aspect of the movie [2001](#) that amazed me the most was the apparent cheapness of massive amounts of energy, as if launching a human into orbit and building huge space ships was just routine stuff. Until we make major breakthroughs in energy generation and propulsion, humans in Space will remain hard and everything but routine. I am afraid, Eva, that you will have to do the EVA with someone younger than me or at the very least with my robotic avatar.

Meanwhile, what can I do to help? Keep looking for talented entrepreneurs and engineers to back and support. People with the right mixture of commitment, competence and common sense to realize that what is hard today can be made easy tomorrow.

EVA: Thank you so much for all of your insights, Hoyt! I hope you and those talented entrepreneurs find each other! We do need to connect the money and funding with those who have both the ideas; and the skill and

EVA Interviews Hoyt Davidson, Managing Partner of Near Earth LLC

drive to turn those ideas into reality. Please keep us informed, if or when you decide to move ahead on the VC front.

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