

Space Investment Summit #6 May 27 2009 Orlando, Florida

The following are twitter notes taken during the Space Investment Summit #6. The notes appear in reverse chronological order, so to read them as they were written, you should start with entry #151 and read to entry #1.

1. Talked briefly with Rep. Kosmas; she has not talked with Bolden since nomination but very happy he was picked. #sis6 about 6 hours ago from Twitterrific
2. now the reception. Thanks for reading! Ken out! about 6 hours ago from TwitterBerry
3. she's talking about installing solar panels at KSC as an innovation. She's excited. about 6 hours ago from TwitterBerry
4. enjoying the cheap ticket to #sis6 @cswiki and @jeff_foust and wondering how to make tweets stop showing up on facebook status about 6 hours ago from web
5. telling story about her 2 year old grand son. She realizes that we're not talking about using biz to make NASA look good, right? about 6 hours ago from TwitterBerry
6. Kosmas represents KSC. Congressional delegation planned to visit next space launch. She's talking about moving biz into exploration. about 6 hours ago from TwitterBerry
7. Paul Eckert is giving closing credits. Suzanne Kosmas, FL-24, just showed up and will speak next. about 7 hours ago from TwitterBerry
8. Nelson: XCOR may be ready to test flights of an orbital vehicle in the 2016-2018 timeframe. #sis6 about 7 hours ago from Twitterrific
9. when will suborbital cargo payload be fliable? 5-7 min micro-g avail 18 mths behind Mark 1. Orbital vehicle comes later. about 7 hours ago from TwitterBerry
10. Andrew Nelson: why fly XCOR instead of Virgin? The "right stuff" experience of flying in cockpit. #sis6 about 7 hours ago from Twitterrific
11. lynx designed for mission flexibility (consistent with disruptive theory). Point to point mkt far off due to high end cyclic mkt about 7 hours ago from TwitterBerry
12. ... Space tourism is one trick pony. XCOR propulsion & safety are high quality. Multiple missions designed into Lynx. Market flexible about 7 hours ago from TwitterBerry
13. showing Lynx video. Myths of spaceflight: space is for govts only; reentry and engines are too hard; capital reqts is excessive; about 7 hours ago from TwitterBerry
14. showing Oshkosh video. Propulsion is the key. Turning a rocket engine into jet-engine operation is the key. about 7 hours ago from TwitterBerry
15. Spkr 4 Andrew Nelson, COO of XCOR. Highlighting XCOR achievements to date as well as next steps. about 7 hours ago from TwitterBerry

16. Ray Tharpe, N Grumman: when the space shuttle goes, dreams of scientists die with it because of lack of ISS access #sis6 about 7 hours ago from Twitterrific
17. ... A bit off-message for this meeting. Are we doing the newcomers to these meetings a disservice by having speakers like this? about 7 hours ago from TwitterBerry
18. I'm starting to see a strong "save the shuttle" message from our florida-based speakers today. A bit of a bias toward govt space... about 7 hours ago from TwitterBerry
19. Richard Branson was the visionary to take what Rutan did and commercialize it. (Tharpe is playing a bit loose with the storyline). about 7 hours ago from TwitterBerry
20. 20th cent had tinkerers (Wright Bros.) 21st cent has Burt Rutan. Rutan patented all he did. (The Wrights patented what they did, too) about 7 hours ago from TwitterBerry
21. next spkr is Roy Tharpe from Northop Grumman. Wow fact of living on the spce coast is what motivated him to work in space field. about 7 hours ago from TwitterBerry
22. sorry... Vancoucer film school student video... about 7 hours ago from TwitterBerry
23. actually showing the Ottawa animation student video called "Space Diving". about 7 hours ago from TwitterBerry
24. rich godwin will pinch hit for rick tumlinson. Will show video of Orbiter Outfitters, part of Extreme Space. about 7 hours ago from TwitterBerry
25. now showing video of him skydiving over Mt. Everest.#sis6 about 7 hours ago from TwitterBerry
26. Wimmer: appetite for risk returning to the market, just within the last 6 weeks. #sis6 about 7 hours ago from Twitterrific
27. 7 Wimmer Values: be inspired, have fun, focus & execution, etc... about 7 hours ago from TwitterBerry
28. for bigger companies there is an "equity draw down". Right now we are reaching a turning point in the market place. about 7 hours ago from TwitterBerry
29. for bigger companies there is an "equity draw down". Now we are reaching a turning point in the market place. Risk appetite is back about 7 hours ago from TwitterBerry
30. equipment financing can be done with sovereign guarantees. Failing all these methods, you can sell shares to Angels. about 7 hours ago from TwitterBerry
31. once you get going, asset-backed financing is useful. Aka off-take, insured, debt financing. about 7 hours ago from TwitterBerry
32. Per Wimmer, in his blue jumpsuit, talking about financing for NewSpace ventures. #sis6 about 7 hours ago from Twitterrific
33. wants to inspire kids to follow their dreams. He's really a hypo-maniac (that's good). People start off through loans. about 7 hours ago from TwitterBerry

34. Per Wimmer is next. He's wearing a jump suit with patches. Financing is everything. Wimmer Space & Wimmer Financial are his companies. about 7 hours ago from TwitterBerry
35. timing of NSC corresponds to timing of NewSpace companies. NSC has land under contract, tax abatements, moving forward. about 7 hours ago from TwitterBerry
36. competition includes KSC, Disney, etc. These are actually demand drivers. Customers include tourists & contributing companies. about 8 hours ago from TwitterBerry
37. His solution is the NewSpace Center, a combination tourist attraction and r&d center, located near KSC. #sis6 about 8 hours ago from Twitterrific
38. NewSpace Center is an affordable, unique, R&D center with NewSpace pavillion, Mars settlement experience, and leading edge tech center about 8 hours ago from TwitterBerry
39. Joe Palaia: public interested in NewSpace, but inaccessible to public: expensive, remote #sis6 about 8 hours ago from Twitterrific
40. space tourism is an opportunity with a problem. It's inaccessible, unaffordable, remote, don't address the future. about 8 hours ago from TwitterBerry
41. Josep Palaia, wants to be the emperor of Mars. NewSpace Center is a space-themed entertainment Center in Florida. about 8 hours ago from TwitterBerry
42. Brett mistakenly attributed the heliocentric system of the solar system to Galileo, instead of Copernicus. about 8 hours ago from TwitterBerry
43. Last Panel "the Future: Next Steps in Creating New Opportunities". Brett Britton, moderator, space lawyer, IP unit. Represents e'prens about 8 hours ago from TwitterBerry
44. John Cassanto discussed flying expts as secondary payloads on tourist flights; primarily orbital but options for suborb as well #sis6 about 8 hours ago from Twitterrific
45. all the questions going to John Cassanto. Heavy duty science needs days. Many student expts can be done in minutes. about 8 hours ago from TwitterBerry
46. Did John Cassanto approach John Garriott? No, but he will soon. about 8 hours ago from TwitterBerry
47. where is sustainable market? Terrestrial services. Must have critical mass and renewable. Cannot foresee sustainability. about 8 hours ago from TwitterBerry
48. spkr 4 Bob Ward just finished as twitter came back. Grrrrrr. about 8 hours ago from TwitterBerry
49. I've lost many tweets due to twitter upgrade in middle of day in middle of week... Grrrrrr. about 8 hours ago from TwitterBerry
50. just lost last 2 tweets. Twitter service being upgraded right now. Grrrrrrrr. about 8 hours ago from TwitterBerry

51. John's company ITA miniaturizes expts, 4 in a pencil-sized tube. ITA sees high value markets in this. about 8 hours ago from TwitterBerry
52. Flights flown on 4 low-g acft, 7 sounding rockets, STS, ISS. Expts cab be put in very small packages. about 9 hours ago from TwitterBerry
53. spkr 3: John Cassanto. Big secondary for micro-G. Biomedical expts, education, zero-g games. Needs small secondary rack space ... about 9 hours ago from TwitterBerry
54. be prepared for everything. Working together isn't just an opportunity, it's a necessity. about 9 hours ago from TwitterBerry
55. Jane Reifert, Incredible Adventures: the higher the cost of an experience, the higher the expectations. #sis6 about 9 hours ago from Tweetie
56. the higher the price, the higher the expectations. The easier it is to do a tour, the easier it is to sell. Cust serv is everything. about 9 hours ago from TwitterBerry
57. IA takes care of all logistics, including providing a local cell phone (in Moscow) pre-programmed with necessary contact numbers. about 9 hours ago from TwitterBerry
58. Spkr 2; Jane Reifert, Pres of Incredible Adventures. Today MIG-29s take clients to 21km. Logistics are everything. about 9 hours ago from TwitterBerry
59. SF's Commercial Launch Zone legislation didn't pass this year, but would incentivize comm'l space in Florida. about 9 hours ago from TwitterBerry
60. ITAR (sorry alias_amanda!) is a significant issue, as is informed consent, common medical protocols, & micro-g incentives. about 9 hours ago from TwitterBerry
61. fairly or un~, space is seen as the province of the super-wealthy, is it prudent for states to subsidize it during hard fiscal times? about 9 hours ago from TwitterBerry
62. Bernie McShea, Space Florida: fighting perception that industry is only for the super-wealthy, a challenge for winning state \$. #sis6 about 9 hours ago from Tweetie
63. Back from lunch and back in comms range at #sis6. New session on commercial space and tourism underway. about 9 hours ago from Tweetie
64. Space Florida is a special district of the State of FL. Owns an RLV hangar, Space Life Sciences Lab, etc. Funding is a challenge now. about 9 hours ago from TwitterBerry
65. Panel "Working Together: Joiny Opportunities for Commercial Space, Hospitality & Tourism" - Bernie McShea is speaker #1. about 9 hours ago from TwitterBerry
66. listening to Jon McBride giv lunchtime talk. I'm always conflicted with these types of talks at a commercial space event. about 10 hours ago from TwitterBerry
67. end of morning session. Nore later! about 11 hours ago from TwitterBerry
68. Virtual Worlds can be used to approach education. There is not much difference between the generations. Tami gave a plug for CoLab. about 11 hours ago from TwitterBerry
69. they are playing with all sorts of ways to better simulate haptic feedback. about 11 hours ago from TwitterBerry

70. Assisted or restricted movement is being used to simulate varying gravities. Tactical feedback is as important as visual feedback. about 11 hours ago from TwitterBerry
71. people are today using sims tactically as well as virtually. about 11 hours ago from TwitterBerry
72. the closer we map simulated ops to real ops, the more buy-in the user has, and the more real it is. about 11 hours ago from TwitterBerry
73. Sims try to reinvent how people prepare for their tomorrow. Showed a L-M commercial "How". about 11 hours ago from TwitterBerry
74. Customers can be digital immigrants or digital natives. It's taken 17 yrs to develop the JSF, so users may be very young right now. about 11 hours ago from TwitterBerry
75. spkr 4; Chester Kennedy, VP Engineering, Lockheed-Martin. Sims and Space virtual worlds are useful for educ, training, logistics anal. about 11 hours ago from TwitterBerry
76. showing the use of Wii balance board and wii remote and webcams to control an avatar or interact with the screen events. about 11 hours ago from TwitterBerry
77. SL=Second Life. It provides immersion, interaction, and imagination. Army has created a wrap-around environment, Low Cost Cave. about 11 hours ago from TwitterBerry
78. Web 3D is immersive virtual environments. Showing a video of SL created by NASA Colab. Hearing the NGEC voices and seeing SL images. about 11 hours ago from TwitterBerry
79. Spkr 3: Tami Griffith, Army Sim Training R&D Mgr. Web sites have gone from being static to interactive to 3D. about 11 hours ago from TwitterBerry
80. showed the use of vr to help train vets with PTSD to learn appropriate responses when returned to civilian life. about 11 hours ago from TwitterBerry
81. there are two hurdles to overcome: technological innovations and content. about 11 hours ago from TwitterBerry
82. there is a spectrum between real env & virtual env. Augmented reality and augmented virtuality fall between the extremes. about 11 hours ago from TwitterBerry
83. as cost goes down and prove they are useful, they will be used more. Human centered simulation has a human in the loop. about 11 hours ago from TwitterBerry
84. Spkr 2; Brian Goldiez. "Simulation for Varying Experiences in Spaceflight". We use simulators b/c there's something we can't do. about 11 hours ago from TwitterBerry
85. One speaker notes that goal was to make space as mundane as catching the bus. Space still not that routine, but is definitely mundane. #sis6 about 11 hours ago from Tweetie
86. Space has become mundane b/c it has no heroes, villains, drama, comedy. Space games must include getting there and getting home. about 12 hours ago from TwitterBerry

87. real world has rules and is not free and virtual world should be too. 4 people in the same virtual world will require governance. about 12 hours ago from TwitterBerry
88. trying to show a Spiderman ride video but it's not working. Need to restore space as best in world to attract investment. about 12 hours ago from TwitterBerry
89. ... Engage the audience, make it immersive, make it relevant. Need to start with the story engine. about 12 hours ago from TwitterBerry
90. First Speaker: Marc Watson, pres of Imagine Creative Technology Inc. Creating experiences include the story, the environment, ... about 12 hours ago from TwitterBerry
91. Panel 3: "Unleashing the Imagination: Creating a Multimedia Virtual Experience of Space" Moderated by David Hosley. about 12 hours ago from TwitterBerry
92. Disney is opening "Disney English" in China to blend entertainment and education. about 12 hours ago from TwitterBerry
93. My personal thought: panel providing very sustaining innovation perspective. Same with previous panel, too. about 12 hours ago from TwitterBerry
94. can space training be used to help people become healthier? Chipman says this is a real possibility. about 12 hours ago from TwitterBerry
95. Questions. How do theme parks measure success? Audience attendance on rides is tracked. Selling an idea is the hard part. about 12 hours ago from TwitterBerry
96. Cost is \$2500-\$8000. about 12 hours ago from TwitterBerry
97. 10-15 seconds in that past tweet. about 12 hours ago from TwitterBerry
98. Uses an L-39 built in the Czech Republic. Also offer 0-G flights with a Rockwell 700 with 10-1d seconds per parabola. about 12 hours ago from TwitterBerry
99. has a multi-axis disorientation machine for vertigo & spatial disorientation. about 12 hours ago from TwitterBerry
100. incorporates hypoxia training in nitrogen diluter system monitored with a pulse oximeter. about 12 hours ago from TwitterBerry
101. Aurora Aerospace is a new company offering two-day training experiences for spaceflight: "Space Camp on steroids" #sis6 about 12 hours ago from Twitterrific
102. training is customized to the clients, including ltd offerings for children. Has a spacecraft simulator. L-39 Albatross jet sim. about 12 hours ago from TwitterBerry
103. Aurora offers 2-day training. Uses jets for flight training component. Wants to offer suborbital flights. "Space Camp on steroids". about 12 hours ago from TwitterBerry
104. @mmealling One of the themes of this session had been more immersive, participatory experiences. #sis6 about 12 hours ago from Twitterrific
105. Howard Chipman, CEO of Aurora Aerospace, civilian training program combining ground and flight training, opened 1 May 2009. about 12 hours ago from TwitterBerry

106. ground-based attractions are about capacity. about 13 hours ago from TwitterBerry
107. Universal delivers theater. Alternative is to leverage the wonder aspect of space... Experience a spacewalk, land a shuttle, etc. about 13 hours ago from TwitterBerry
108. Universal focuses on fantasy. Guest experience must be engaging, rich, full. Modern audiences expect fantasy based experiences about 13 hours ago from TwitterBerry
109. Michael-100-white_normal mmealling RT: @jeff_foust: William Moore, KSC Vis Complex: Gen Y not as interested in space, need to find ways to engage them. #sis6 <-- is that true? about 13 hours ago from XMPP Gateway
110. next spkr: Steven Blum from Universal Creative, Sr Engineering VP. Big story-telling component is time compression & reality disbelief about 13 hours ago from TwitterBerry
111. William Moore, KSC Vis Complex: Gen Y not as interested in space, need to find ways to engage them. #sis6 about 13 hours ago from Twiterrific
112. Getting to Gen Y is the challenge. How to engage on their terms, view Earth as our spaceship, using gaming & social network experience about 13 hours ago from TwitterBerry
113. KSC VC offers astronaut training experience that lasts several hours, working like an astronaut, attracting the adventurer. about 13 hours ago from TwitterBerry
114. KSC VC offers tours of working space center. Astronaut encounters. Immersive trends. New Shuttle Launch Experience. about 13 hours ago from TwitterBerry
115. need to physically show people what is real in space. Wants to restore a sense of wonder. about 13 hours ago from TwitterBerry
116. Why build space-theme park? NASA is home for real space travel. Really a hybrid attraction for really being there. about 13 hours ago from TwitterBerry
117. William Moore of KSC Visitor Complex works for Delaware North Co. Parkd & Resorts. about 13 hours ago from TwitterBerry
118. Space Mountain in Epcot is shown next. Disney wants people to be happy. It's the shared emotional signature that is their goal. about 13 hours ago from TwitterBerry
119. post-show experience includes further discovery and activities. Now talking about Space Mountain for Paris. about 13 hours ago from TwitterBerry
120. ... Had to come together to make it a reality. Ride includes choices between thrill & non-thrill experiences. about 13 hours ago from TwitterBerry
121. Luc Mayrand, Disney: terrestrial space tourism experiences need a mix of the authentic and reality. Example: Mission Space at Epcot #sis6 about 13 hours ago from Twiterrific
122. Blending fantasy and reality is a function of the story being told. Showing Mission Space photo. Ideas, investment, tech, and place... about 13 hours ago from TwitterBerry

123. Luc Mayrand is Disney Imagineer. Time between now and then will be filled w/steps incl entertainment for a broad audience. about 13 hours ago from TwitterBerry
124. Remarks about theme park history. Can ground-based attractions spur demand for real space travel? Disney, Universal, KSC will discuss! about 13 hours ago from TwitterBerry
125. first panel done. 2nd panel: "Really Being There: Space-Themed Physical Attractions". Robert Jacobson, pres, Desert Sky Holdings. about 13 hours ago from TwitterBerry
126. how drugs react in space need research. Has industry talked with NASA about this? No, but this is an important issue. about 13 hours ago from TwitterBerry
127. Bloom: hotel industry always over capacity, so more cost effective for training providers to partner with resorts than build new ones. #sis6 about 13 hours ago from Twitterrific
128. how will hotel industry deal with risk aspect of space tourism? State laws are evolving. about 13 hours ago from TwitterBerry
129. training events tend to be near launch ctrs, though it may be inefficient. Training should be better situated at all-inclusive hotel. about 13 hours ago from TwitterBerry
130. Timeframe def'ns are near=0-5 yrs, mid=5-10 yrs, and far= >10 yrs. about 13 hours ago from TwitterBerry
131. Q: how to deal w/health impact to humans? Need to deal with all issues, based on exposure duration, etc. about 13 hours ago from TwitterBerry
132. Barry Bloom, hospitality investor, draws parallels between future space hotels and cruise lines and all-inclusive resorts. #sis6 about 13 hours ago from Twitterrific
133. Looking at dive and scuba industry regarding training. Advance deposits provide space tourism with a financing advantage. about 13 hours ago from TwitterBerry
134. What will define space hotels? Similarities/diffs with cruise ships, sim/diffs w/all-inclusive hotels, orb vs sub-orb, tech issues. about 14 hours ago from TwitterBerry
135. What is interplay & interface for people who use hotels for biz and/or leisure? What services are req'd for space travel? about 14 hours ago from TwitterBerry
136. (et al incl life insurance cos.) Hotels financed by US, Japanese, Asian banks and CMBS market. about 14 hours ago from TwitterBerry
137. Absolutspacegirl_normal absolutspacegrl RT @jeff_foust: Space Investment Summit 6 (#sis6) underway in Orlando. Theme is linking space and hospitality industries. about 14 hours ago from twhirl
138. Orbital space tourism is coming after suborbital. Hotel investment industry structure: big names run hotels owned by equity funds etal about 14 hours ago from TwitterBerry

139. M&E incl space tourism, comm'l astronaut training, and more... Too much to "type"! Suborbital space tourism needs infrastructure. about 14 hours ago from TwitterBerry
140. short-term opportunities incl media & entertainment, communications, and governance. about 14 hours ago from TwitterBerry
141. The discussion of space infrastructure and markets here very similar to the one at last SIS in LA last October. #sis6 about 14 hours ago from Twitterrific
142. ... Energy & mining, defense, and transport operations. For experience industry, infrastructure still needed. about 14 hours ago from TwitterBerry
143. Book_cover_2_normal DrLucyRogers RT @jeff_foust: Kollipara: space is not a destination, instead it's an enabler for various business verticals: faster, cheaper, better #sis6 about 14 hours ago from TweetDeck
144. Applications that will benefit from infrastructure incl healthcare, mat'ls, sci research, media&entertainment, comm, governance,... about 14 hours ago from TwitterBerry
145. Launch infrastructure, R&D, mfg, and space system ops are all needed and are all infrastructure. about 14 hours ago from TwitterBerry
146. Kollipara: space is not a destination, instead it's an enabler for various business verticals: faster, cheaper, better #sis6 about 14 hours ago from Twitterrific
147. Space not a destination. Space is an enabler, provides new disruptive ways to do bizness. Infrastructure needed for biz to succeed about 14 hours ago from TwitterBerry
148. Panel 1: Financial Issues in Synergy of Space & Hospitality/Tourism/Entertainment Industries about 14 hours ago from TwitterBerry
149. Faa_astronaut_wings_e3_normal cswiki All activities at #sis6 will be recorded. Intro of first panel of financial framework: Amaresh Kollipara, Mike Leventhal, & Barry Bloom. about 14 hours ago from TwitterBerry
150. Faa_astronaut_wings_e3_normal cswiki @jeff_foust Thanks for tweeting the hashtag ... I was wondering what it was! SIS7 will be on Sept 30 in Boston, MA. #sis6 about 14 hours ago from TwitterBerry
151. Space Investment Summit 6 (#sis6) underway in Orlando. Theme is linking space and hospitality industries. about 14 hours ago from Twitterrific