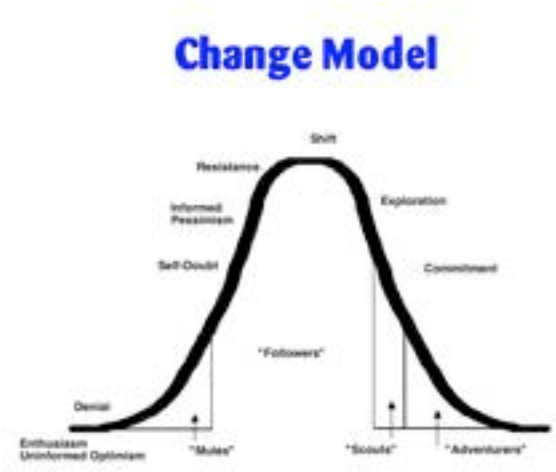
Question	
Does SEA have a ""small business"" model (less than 50 employees)?	yes. Contact david@seaonline.org
How successful has the participants been with sub-tiers who traditionally might be defined as job shop processors?	SEA suppliers are to a great extent "job shops" in that many suppliers are working on build to print, short run, high mix projects - and of their suppliers are either very small operations or very large distributors. The leverage of SEA is to bring all customers together in one voice that says, "You need to accelerate your improvement"
how do you affect the large elements of your suppliers (many of our suppliers are large multinationals)	SEA has the leverage of representing all customers and can often have an impact whereas the voice of one small supplier may not.
Quote time frame	How fast a supplier moves through the SEA engagement process is largely dependent on where they begin, what they have already done, and how much they invest in the resources it take to move ahead. SEA supplier should plan to sustain their improvement effort forever but in particular to work for the next 2-5 years to establish a solid and reliable improvement system.
I would like to know how you plan on getting parts from those who are to busy now	SEA recognizes that our members are pushing a lot of business down the supply chain right now and this causes suppliers with low process capability and low efficiency production systems to slip delivery dates even to their largest customers. Whatever impact SEA will have on this will certainly take more than a month or even a year to be seen and appreciated, however, the power of SEA is collaboration - having everyone in the industry speaking one language, measuring progress towards the goal in one way. Over time we will give every supplier an opportunity to accelerate their improvement efforts and those who take advantage of this opportunity will flourish and their service to their customers will improve.
please increase volumne cannot hear	sorry

How do you handle demand from customers that use web portals to manage their business (constantly changing their schedules)?	Customers are moving toward production lines and requirements that move faster and faster. Suppliers serving these customers will begin to notice that their customer's requirements do not fit into the traditional PO and delivery schedule way of doing business. methods must be developed to speed up supply chain responsiveness to pull signals. Web portals may not be the solution eventually but everyone is attempting to deal with some very difficult problems with internet technology. If you build an agile and responsive business, you will not care whether pull signals come from the internet or some other means.
When spec"d in sub-tier performance levels doesn't turn around, how effective have you been in working backwards with Customer to provide additional options?	SEA is creating opportunities for customers and suppliers to speak informally about increasing performance. Many times SEA members notice that in order for performance to improve they have to make changes as well as the supplier. SEA members compare notes frequently and benefits from ways that suppliers and customers are solving these problems.
What is your process for long term agreements?	This varies according to each member. In general, SEA members wish to form LTDs whenever it makes sense.
How can we effectively use a Total Cost approach when Primes are heavily focused on pc. variance? Any success in working back to Customers?	We all have come to realize that we do not have good system for total cost evaluation. As we get better at this we will see decision-making changes.
How do you help them get it when they have companies just begging for there help they have more business then they know what to do with	SEA's approach is to sponsor and hold up highly visible examplles of success. We believe that suppliers get it when they are exposed to their peers talking about their lean successes. There are lead suppliers with CEO you get involved and stay involved in improvement efforts. These suppliers are out there and we are expending a lot of effort to find them.
We are starting SEA LEAN training tomorrow. What is the biggest challenges we face during the implementation over the next six months?	I think the panel did an excellent job of answering this one. I will add one thing - the most important success factor present in these panelist companies is a CEO who GETS INVOLVED and STAYS INVOLVED with continuous improvement as a number one priority. You focus on this and make sure it sticks and you will never have to worry about bringing in new business, or keeping it. Put some spin on this and then move on and you will be struggling for the rest of your natural life down the hard road.

What does the engagement in the SEA model cost vs. the reward? Why should a supplier want to engage and join SEA?	There are many paths to implement the SEA Roadmap and therefore many costs hidden and otherwise. I will only try to describe the two extremes. On the one hand if you have not invested in building the internal capabilities to implement and accelerate your lean and six sigma improvement efforts, you may have to contract with one of our Authorized Service Providers. They will not only help you rapidly implement a system for low mix/high volume production, but they will setup your operation to gain the quickest possible SEA Stage One Certification. On the other, if you do have the resources developed in house, it is easy and relatively painless to get these folks educated on the SEA Roadmap and requirements and then use your own in house resources and your own chosen approaches to improvement to achieve the same results. The cost of the first approach in outside consulting will be at least $100K/year for 3-5 years. The cost for the second is mostly an in house cost but the outside costs might be less than $20K.
Considering every company has limited resources and time how do you convince employees to go the extra mile to implement lean in parallel with the job deadlines?	Experience has proven that upper and middle management are the toughest audiences. They want to "buy-in" without understanding fully what they're implementing. They want to take the "short course" or no course at all. Employees will "pull" lean into the workplace if you do a few simple things.. (1) take action that illustrates that you believe this to be the most important thing you will do together in the next five years (2) be present and acknowledge and encourage everyone to continue the efforts - don't back down from problems and when a Kaizen team does a report out, be there every time (3) and when problems arise - because when the water line is lowered the rocks show up - and when you speed up your operations, the problems begin to show up everywhere and everyone wants to go back to business as usual, you tell them, "We are going to keep going. we're going to push ahead and solve these problems. there is no going back." Because leadership is the most important quality necessary for lean success.
To the Panel: What were your initial costs to become engaged with SEA (SEA Engagements, Membership, Internal Costs, and Training)?	For the most part, panel members represent those companies who engaged an ASP and invested heavily in maximizing their acceleration. Every company is different but on average these company's outside investment was over $100,000 in outside costs and over $100,000 in labor costs each year of their journey.
what do you do if the process you need can only be done by a couple of companies, for certification, such as heat treat or plating.	You join see where there are many suppliers who have the same problem and you either get some of those process companies on board or you innovate and create your own solutions together. There is strength in numbers.

 **What was the tipping point at your company that changed the culture?**	The culture of a company can only change as fast as its leaders. Leaders who look at the problem as "changing the culture of the workforce" have missed the fact that they need to lead the culture change - and not by talking about it but by demonstrating it. Leaders who give up their parking space, move their office into the factory floor, work on Kaizen teams and grab a broom, put on a hard hat, get lunch for the team and serve it, and make other dramatic demonstrations of the changes they are making in their own lives are leading the culture change. talk is cheap. so the "tipping point" is when the leader begins to change. What we also know is that people react to change according this this change model. There are those who embrace change and become the scouts and adventurers while there are others who do not. when making changes, you should always focus on the scouts and empower those early change leaders because everyone else will follow their lead. never focus on those who appear to resist or do not want to change, only focus on the leaders - acknowledge their efforts, hold them up as examples, encourage others to follow their lead. Followers follow when leaders lead.
If the supply chain is at capacity, do you push more or do you increase your supply base?	We may not be fully understand this question - but best efforts - when the supply chain is at capacity you accelerate lean implementation. The amount of capacity in the average company is extraordinary - beyond logic. When we convert a company to one piece flow and lower the water line of batch sizes, setup times, and required inventory, we free up 50% plus capacity. When suppliers work together to innovate solutions to customer problems we find even more capacity in the "white spaces" between supplier companies. SEA is about encouraging investment in accelerating lean development and therefore in an indirect sense, building capacity.
Can you increase your sound levels? volume	sorry - a copy of the conference on CD should be available shortly.
Just wondering about the Panel. Does any of the participants have a background in Purchasing or Supply Chain?	The panel members are all company CEO, owners, or senior officers of their company. Their background varies but is mostly operations, marketing, etc. They have experience usually in several different markets or industries. They all do business directly with the primes in aerospace defense and/or commercial and some do business directly with Dod.

What are your suggestions for dealing with sole sources? Even when there are a couple of sources, the suppliers are very aware of their ""power"" and play their delivery, price and performance between customers. In aerospace, with specific supplier parts certified on engines, it is not so easy to move suppliers into a mindset of change and maturing their processes and very hard to replace them if they will not.	Our panel may not be the best source for advice on questions of sourcing strategies. They are suppliers through and through and can only advise you on how the various strategies affect their thinking and behavior. In general, we believe that capturing business through protected technologies and processes - and cornering either materials or unique features of the supply chain as a long term competitive strategy although perhaps effective in the past is not a collaborative strategy and has become obsolete along with the captains of industry. We believe that open and honest collaboration with customers, partnering with competitors, and customer success is the best long term success strategy. For those sourcing we can only suggest that in the longer view, these are the types of suppliers you should consider when sourcing decisions arise. we understand that in many cases with qualified or certified parts, these decisions do not come up as often.
Is the supply chain incouraged to stay up to date on techology?	Small suppliers have always invested in equipment in order to advance their capabilities. So this kind of technological advancement is inherent in the thinking of most small suppliers. Materials advancement is harder because investment in research and development in house is very limited. Most advancements in new materials flows from well-funded Dod research applications into commercial applications at a later date. The SEA program includes the requirement for a strategic planning process that includes a realistic environmental scan for advancements in technology that a small company can adopt. This would have even the smallest firm asking its vendor/suppliers and partners about advancements affecting their business.
Aerospace is very incestuous - Often relationships are Supplier, Sale Partner, Customer or multiples of. This often causes conflicts on what opportunities to pick? How can we best manage?	Again, we're probably not a good source for advice on sourcing strategy. You probably know a lot more than the average small supplier about these kinds of problems. Our focus is on distinguishing SEA suppliers who have invested in improvement, building their capabilities as small production suppliers to industry-leading levels with certifications that achieve higher levels of process capability than you have seen previously in most small suppliers. Given this distinction, we believe you will have a choice to partner closely with suppliers who wish to win your business through sheer advanced capabilities at extremely reasonable prices.

How have you quantified your cost savings using the SEA Model? For example, increased ROS, decreased COPQ, and the Ratio of Investment $"s to Savings $"s. If you can't Measure It, you can't Manage It!!!	The SEA supplier community is broad including many commodities from advanced composites to electronic assembly to forging and casting, and many more in between. Across this base we have established an investment certainty of 5 to 1 return on investment annually for the supplier who sticks to the process. The panel during its session shared some typical Cost of Poor Quality examples. Remember that most small suppliers may have only begun consistent measurement practices recently with the advancement of their SEA engagement.
Sometimes Lean is only thought as the Shop. Any examples of Lean implementation with Engineering? Engineering/Design culture is nortiously late?	Fortunately we are amassing more and more examples of lean applied to engineering. Most small suppliers have a very limited capability as they may have been a build to print shop for many years before getting asked to engage in adding value through engineering. With so few resources, and typically low maturity processes in engineering, these are very fruitful areas to apply lean principles. The fundamentals apply - Standard Work - an engineering process that does things following a documented process; Continous Improvement - an engineering process that continually examines its weaknesses and improves its process to prevent errors; Design for Manufacturability - the integration of design and production thinking to prevent costly and slow startups. We often wonder why a customer would think that a supplier with poor process maturity on their core processes would ask a supplier to take on a new process? Do we think that this supplier who hasn't demonstrated the ability to mature their long standing processes would suddenly produce a highly mature new process? A better strategy - support suppliers in becoming world class at what they do now - then work with those who have demonstrated a firm grasp of process maturity to build new processes that quickly mature as well.
Today's engineers are lacking the experience of designing a product without the machining background needed to see if it can be manufactured?	See the previous question and comments. Although most schools are rapidly adopting curriculum that includes Design for Manufacturability and Concurrent Design and Development, we still have a large portion of the engineering workforce that hasn't attending college in many years. The idea that people with advanced degrees don't need to participate in workforce development therefore shows up as a limiting view. Small companies are reluctant to invest in workforce or professional development. They are limited on people and time and don't have the flexibilities of large companies to replace someone who is off the job for several days or weeks. This doesn't mean they can't do it, it just means that they need more encouragement and support than others to do it.

Brad, but what happened to the 13 week forging lead time for sidewinder?	You will find the names and contact information for the Supplier Advisory Council on the front page of the SEA website. These suppliers have offered to speak to anyone who is a serious caller wanting coaching. We request you make contact by email first.
When doing work for multiple primes (especially when working the same programs, i.e. F-22, F-35), what techniques are used to guarantee the correct specifications & approved processors are used?	Although an excellent question, this is beyond the scope of our current conference and panel. There are many other members of SEA who are extremely knowledgeable in a variety of subjects and attend our regular member meeting every 6-8 weeks. We find this is an excellent venue for people from various companies to compare notes on these and other questions.
David Castleberry@ Cessna says in order to get more from our suppliers. We have to leave our suppliers better than we found them. Are they better for having run into you or your company? Do you really give a rip about them.	SEA is not "a company" per se. It is owned and operated by the primes, tier ones, and suppliers of the industry. That includes Cessna who is very active in the governance and policy-making of SEA. SEA has a board that is very active and has a lot at stake for accelerating supply chain performance. SEA also has an advisory council made up of suppliers such as those on the panel that definitely have a high interest in accelerating supply chain performance. Everyone you will meet in SEA is investing alot of money in getting the message out to suppliers and helping to educate them as to the changes in the industry and how they can adapt to keep abreast of those changes. The spokes persons for SEA are the suppliers who have experienced every part of the SEA program and who own the SEA Roadmap and certification system. They are telling you that their personal life and their company has benefited greatly through their involvement with SEA.

Did you have flexibility to modify some of the SEA LES approaches and tools, or were you expected to apply everything exactly as they presented them?	SEA's intention is to be a high level framework by which we can establish a common industry language about improvement and performance, establish a way to assess where we are as a company, a supply chain, a program, and to guide our efforts in the most efficient manner toward the goal - accelerate supply chain performance. But we know that everyone is improving -- no one is standing still. And everyone has their favorite tools, their favorite methods, and their favorite consultants and authors. We don't have time to argue beliefs and we certainly don't have time to argue tools. So instead we concern ourselves with establishing a roadmap that anyone can can use with any tools or methods they want. Just like AS9100 sets out a quality system, SEA sets out an improvement system. If you follow AS9100 you get a good performing quality system that meets the requirements of every customer in the aerospace industry. If you follow the SEA Roadmap, you get a good performing improvement system that meets the requirements of everyone in the aerospace industry. Some people will arrive there early and some will arrive late. Everyone still has the freedom to do that but of course as in real life, there are consequences to being late. Short answer to the question - YES.
When implementing lean, are you targeting all areas of your manufacturing operation, or only specific workload and cells, based upon volume and repeatability of the workload?	Experience has proven that the best implementation approach is to focus, conquer, learn, and then deploy. Simply stated this means that rather than trying to solve world hunger, that is, solve problems all over the company, it is often best due to limited resources and management bandwidth to ask the suppliers to focus on one or two value streams first, create major improvements, then take what they've learned and migrate it to other value streams. When you do a quick hit like a Kaizen event in the middle of a value stream, the report out says things like, "Improved cycle time by 50%, reduced waste by 70%, increased productivity by 50%" but what the report out doesn't say is that now based on increased productivity, the line is piling up product on the next step after the area Kaizened, and the step just before the Kaizen area now can't keep up with the demand of this new productive cell. We tend to take a simplistic view of improvement. But even small supplier companies are a complex system. It takes many Kaizen events and lots of work in between in order to actually produce a better result at the end of the production line where the customer product flows. Unfortunately this isn't what any customer wants to hear. it's got to be simpler and faster. Why can't you just focus for a week and solve my problems? if it were that easy, people would be doing it. So although the SEA process is not easy, it is simple. You follow the roadmap and do the work and eventuallyyou begin to see results - lasting results.

Please again identify each panel member.	Brad Hart - Roberts Tool Cristi Cristich - Cristek Rick Cleary - Capewell B J Schramm - Hitco Randy Fry - Photo-Etch
What did you do with the people who just didn't get it?	We focus on the leaders. Our experience is that many people who don't get it will follows the leaders when we make it clear how things work. Some of course will never get it and per my comments in the earlier discussion on the change model, we ignore them. But our doors are always wide open and we always provide as much encouragement as possible. What does the conductor do when the doors are closing and the train is moving out?
How have you dealt with the culture change associated with implementing Lean into your facilities? It's easy to move machines and cells, but it's not so easy to move the people.	You're absolutely right. Per earlier comments on this subject, the greatest cultural changes take place among the leaders. When leaders change, the culture changes. People don't adopt a culture their leaders don't support. Ask yourself what is important around here based on observing behaviors. Whatever the answer, the leaders have to change what appears to be guiding everyone's behavior. Take the example of a company where behaviors tell us that everyone is CYA - protecting themselves at all costs. Who is the source of that behavior? the person themselves? I don't think so. They are only trying to survive in an environment they perceive to be hostile to those who make mistakes and say dumb things. Who is going to change that? Moving a machine can be hard if you don't use leverage. Moving a workforce can be just as hard. But just like machines, there are leverage points that although not apparent, make it easier to move people to a more productive culture. The SEA program as delivered by our ASPs addresses culture change in a major way.

Is the day of multi-tasking gone? Are we to be more focused?	Although most people believe that multi-tasking is in fact possible, we only need to consult with a psychologist about the basic capabilities of the human brain to find that it is, like a single processor computer, actually only capable of doing one thing at a time. But like the computer, we can appear to be doing a number of things at the same time very skillfully. But we are only performing the same operation as the computer - time sharing. What we know about a computer is that a task that shares the processor with another task takes twice as long. In the MIT study of the automotive industry, (see the book Machine That Changed the World by Jim Womack) there was a very telling comparison between the way we designed and introduced a new automobiles in America and the way a Japanese competitor designed a similar vehicle. We used resources from each department of our company who already had a 60 hour per week job, and assigned them to a design team. In the Japanese team, they assigned dedicated resources. Our team had many more people to accomplish the task. Theirs much fewer. They introduced a new vehicle successfully in 4 years or a little more. We introduced a new vehicle in 5 or 6 years and often not successfully. Talking about multi-tasking like it actually has a track record of working could be one of the grand American mistakes. If I were a foreign competitor and wanted to completely disable the economy of another country against which I wished to compete. I would simply introduce them to the Blackberry and put in big banners next to every freeway - "MULTI_TASKING MADE EASY" and let the human tendency to rationalize do the rest. Meanwhile what we've known since the writings of Sun Tzu in 600 B.C. later translated to the Art of War is that Strategy is the Science of arranging the soldiers and resources on the field before the battle begins. The objective of strategy is to avoid battle altogether because the people do not have the staying power for such a drain on resources as to continually fight wars. This is the domain of the general. And in modern business the "general' or leader of the enterprise has the responsibility to arrange the workers to be successful without a battle - translated to minimum wasting of resources, time, and energy... maximum success every time. Our leaders should make the decisions about which are the few right things to do that can be done by almost anyone successfully and if done, we assure victory and avoid casualties. Including ideas like multi-tasking, resource-sharing, matrixing, and many other buzzwords, for a small company, can be strategic mistakes. After a while, our recruiting begins to look for superman, but the one who is not vulnerable to Kryptonite. Meanwhile we miss the fact that our leaders are failing - strategy is a failure when only superman can do the work, and strategy is failing when normal people are not successful in doing a simple job successfully every time. Good strategy makes people STARS. Poor strategy repeated should be a trigger for new leadership.