First Discussion Period: Please discuss Topic 1, Topic 2 and Topic 3 (20 minutes). The meeting will reconvene, and participants will share the main ideas from each topic with the full assembly.

1. **Product Development**
   
   A. How do you research and develop new products?
      
      a. Where OEM is the customer, the focus is providing the best product at the least price. Mostly market driven.
      
      b. Starts with an idea – the “better mousetrap”. The focus is then on building a business case to move forward using community/business resources to bring the product to market and make a profit.
      
      c. Survey, driven by Fed directives and state mandates.
      
      d. We don’t Currently
      
      e. Contrast Mgers do very little R&D. Man, with corporate HQ’s out of state do very little R&D
      
      f. In conjunction with customer partners, Based on listening to their needs.
      
      g. Internet or through vendors/suppliers
      
      h. Internally
      
      i. In house
      
      
      k. Products are developed in reaction to customer needs or by observing industry needs. In order to anticipate needs ,the innovators need to be close in the manufacturing process. New products are often products designed for use in US, then adapted for international use and sale.
      
      l. Schimdt – Products are specifically tailored for clients. At Dell they bring in a team and create project-based solutions. The company will provide solutions to problems that are involved in the engineering or systems side of any company. They will specifically tailor the personal, technology, etc. To each client depending on their budget. Why do people come to companies like Dell? The companies are reluctant to hire and fire, and companies like Dell can fill these vacant spaces (personnel) in companies. This type of company can operate in a quicker more efficient manner.
      
      m. Research to find need, find concept, customer’s needs, technologists was ready to do project development but needed business
      
      n. Idea and need is defined by marketing
o. Start out with a paper design, testing, then go into field to test, next year go into deeper testing 48 month cycle

p. Capital and talent

q. Try to fit industry’s needs

r. Spirit: there is a continuous effort to develop new products. External collaborations, relationship with national and global universities are couple of resources. Also R&D Dept. is in charge of new products development internally

s. PWI: They usually receive ideas from customers almost 20 ideas per year. Then the engineers consider the ideas and work on something which has capability to be commercialized.

t. MW: at Cessna we have dedicated R&D of engineering and manufacturing. We are a conservative company and usually don’t invent, but adapt new technology into our product. Cessna is not a top R&D innovator. There is usually a 3-5 year development for planes. For ideas we study and look at what the market is doing. We will partner with cutting edge companies to bring in technologies to integrate into our products.

u. RD: R&D and innovations are built off a good idea and still working. Very seldom is there real R&D going on but we usually have a few people tinkering and exploring a new idea.

v. SE: In agriculture R&D is very market driven. R&D is done every day by manufacturing management: looking to add value for the customer. Creekstone Farms has less than 1% of market the share. We don’t want to be a commodity packer: we’re looking for something different to stand out. It can take as little as 5-7 days from idea to market.

w. Input about what customer wants is obtained from Marketing and Sales Department

x. Also look at what international customer wants, this may differ from national customer

y. Setup test markets

z. Selected customer enter into product like chemical coatings

aa. Customer requirement

bb. The Research and Development for product manufacturing in aviation research usually conduct in house and internally, however, in areas like Nano technology and Composite, the information which has generated by NIAR is used. The universities researches, such as special structures and metal forming methods consider in first steps of R&D attempts of aviation companies.

c. Based on Market research and company potentials, we intend to move toward new business objects.

dd. Challenge – intellectual property

ee. In small companies, the resources are limited: therefore, there is not enough funds to do market research for the new product development.

B. Do you patent your products? Do you manufacture products for others that hold patents?

a. Patents aren’t value added if they don’t lead to new products or innovations.

b. Placing a focus on patents just to have patents may be unproductive by itself, it needs to lead to something

c. Refresh lubrications – YES
d. No  
e. Mixed yes and no to both  
f. Not in HCC, Did in Private sector  
g. No – too time consuming and expensive  
h. Yes  
i. Yes, but patent protection is unpredictable. No, try to stay ahead of others in development and technology. Patent protection drives collaboration by allowing for the reveal of new technologies.  
j. In the process of creating solutions for companies, the client will own any ideas or technology that is created throughout their work with the client. The patents will not be for Dell, but rather the company who funded the creation of this new product will have the patent (the Dell engineers may have their names included though).  
k. Yes both PWI as a small business and Spirit as a large company have couple of patents. Also they produce products which other hold patents.  
l. JH: I have a patent in aircraft, and in aerospace industry you are protected by the difficulty to get into the market.  
m. Customer holds the patent  
n. Patent process is too long and costly. The aviation industry prefer to keep their innovations in their company because any effort to patent is a kind of advertising and they prefer to keep it secret and use it in their products. The patent can be neglected by a small change in product so the competitive advantage of company cannot be kept.  
o. The universities patent approach is counter to industry collaboration.  
p. Not currently  
q. Proprietary rights – WSU will partner in development cost – Blue Rally

C. How does R&D generally work in your industry?
   a. Mandatory certification processes, debate a lot.  
   b. What can be innovated to add value for the customer, involves a lot of testing. The certification process what is required “sometimes” a lot of innovation and tends to lead things learn to level can do it cheapest and best. There can be some disconnect between the design group and the manufacturing group. That communication needs to take place and the process allows for it.  
   c. Pilot projects, trial and error  
   d. Based on customer needs  
   e. For contract manufacturers, customer driven, Same with some of the component manufacturers in oil (gas).  
   f. In education, at HCC in particular. The business industry institute will pilot.  
   g. Look for ways to do things better and faster  
   h. Engineering group  
   i. Two main requirements: Capital and Talent. Both are problems for manufacturers.  
   j. We have learned that engineering and manufacturing must work together closely, collaboratively and geographically.
k. PM: Remanufacturing
l. EC: Government mandates make us do stuff besides technical education
m. PM: Registering on CCR
n. PM: Developing new is too expensive
o. LY: Service is more important than new designs
p. In Spirit they use some external capabilities using their supply chain members. There is a very tough process to be Spirit supplier though.
q. MW: We don’t have acumen to pull off innovation on all technologies.
r. JH: We will go and ask the Market for new engines of technology and that will drive R&D. Visiting with distributors was important when I worked at Beach. We really looked at what’s practical.
s. Research about improving the quality (in the case of beef industry university does the research (animal science) about improving the quality of beef)
t. Customer driven as they provide specification and requirement (especially for company which provides service of designing and creating for the customer and is not into production)
u. Engineering is key
v. Outsource
w. R&D crew, 100 % dedicated chemist & engineers develop, modify & create new product
x. Customer request the need
y. The R&D handled internally except for focused research as mentioned above.
z. New equipment are very costly, so industries like us need more time in order to absorb into company
aa. Many times in small companies they don’t even know whether or not their activities could be considered R&D

D. Does your organization collaborate or interface in any way with colleges and universities? If not, can you envision any benefit to you company by exploring opportunities at Kansas research institutions?
   a. Collaboration between industry and universities is critical to make full uses of all resources and ideas. Universities are starting to look for ways to connect with private sector and business for what their needs are, Catalog their needs and what ideas or projects
   b. Universities are starting to look for ways to connect with private sector and businesses to what their needs are. Catalog those needs and sell what ideas or projects away like “on the shelf” with the universities to meet those needs. Exciting things can happen when an academic PhD and an industry PhD connect and create.
   c. Yes, they facilitate grants. Articulate curriculum, and provide staff development.
   d. Not currently
   e. Very little but worth being more engaged
   f. Rarely. CCR’s forgot work too.
g. Advisory council’s Campus recruiting, Internships.

h. Porter – They do a lot of the intern that come from programs like these. Interning helps keep engineering students in engineering and possibly in the future will facilitate more relationships between companies. Side – Engineering students – The initiatives to employ engineering students is good because there is a growing need for engineers. To hold engineering students in the major and the field he companies do not always compensate the engineers in a way that lets engineers stay put. Engineers also have trouble in sales and marketing; more training in these areas are needed.

i. Spirit: Yes they define some projects and funds

j. PWI: They have no relationship with universities, but they would like to have such connections with colleges and universities.

k. SE: We are very active with agricultural schools (KU, KSU) and recruit and do fund raising. This helps keep talent and stay up on industry trends and advances.

l. RD: Companies I work with didn’t work with universities much.

m. AB: At Cessna they sit on advisory councils and develop internships and co-ops.

n. AB: They ask how to meet criteria and what industry needs. Yes.

o. Have offered internship to train people for future management

p. Universities are core of moving manufacturing research to higher level but not in specific product research. Manufacturing methods and tools are the most important as well as training of researchers who can continue their work in industry research.

q. We wish to do so. Having a more common and general formal relation could be useful

r. In small companies, R&D is internal so it does not reach to the colleges and universities for further study.

s. We have to figure out how the universities and the businesses and talk to each other.

t. Sometimes the Kansas self-reliant spirit gets in the way collaboration.

u. The incentives and the credits for partnership in the State of Kansas should be made clear for the business.

2. **Marketing/Sales**

   A. Where do your customers reside?

      a. Locally

      b. Alabama, Texas, Georgia, Illinois, Pd

      c. Regional, National, Int.

      d. Rono, Rice, Hapron, McPherson Counties, Then Sedgwick, stateside and online

      e. 100 mile radius of Wichita.

      f. Mostly nationally

      g. Worldwide

      h. International distribution, USA/Europe, Emerging mkts. India/Asia

      i. Locally (VM). 25% in Kansas, 1% Foreign, but striving for 25% foreign, selling through distributors (DB)
j. Mostly in Asia (China and Japan), North America (Primarily) and Europe some in South America, Biggest marketing (farm bill- agriculture) Subsidies drive customer, equipment Agriculture Industry will buy

k. LY: Pretty local

l. Spirit: all around the world

m. PWI: Inside USA

n. SE: We are global, US constitutes about 60% of sales

o. AB: At Cessna it used to be 50/50 but not it is about 65% domestic. We are looking at China and India for rapid virgin markets

p. Primarily domestic customer for some, but are trying to tap into new area, while some cater both international and domestic customer

q. For international marketing vocabulary (ontology) is challenge as terminology could differ (not because of language like how soccer in US is known as football internationally)

r. Worldwide

s. In state, out state, Canada, Mexico, Denmark

t. 50% in United States and 50% international customers

u. Mostly intown

B. Are you looking to expand beyond this current footprint?

a. Yes, we are currently working on enveloping in the J.E. Asian market

b. Some are

c. Yes, online

d. Possibly if the right opportunity presented itself.

e. Always

f. Yes. Further expansion into emerging markets.

g. Expand internationally. Sales is the most difficult part (VM)

h. AW: Transitioning from local - regional, regional - national. Changing from Word of Mouth to traditional marketing

i. AW: Business focusing on niche, when they have the capability to manufacture more

j. Spirit: Yes

k. PWI: Yes

l. SE: business is really based on value of dollar and the exchange rate.

m. JH: In aircraft, markets are wanting and taking manufacturing jobs and sales of planes.

n. Alongside the product market Kansas, show what it has to offer in terms of resource, culture

o. Market company to customer, show them the work ethics, such customer could be impressed and bring more customer (word of mouth

p. Yes, plans to grow the plant in Wichita & Hutchinson KS
q. Expand distribution centers
r. Always! Opportunities in reducing cost and increasing quality are the primary strategies to increase the market share.
s. Yes

C. Would you be able to increase your profits or sell more if you opened additional manufacturing locations?
a. Kansas doesn’t place nearly enough emphasis on marketing efforts as compared to other states. Is a govt. savefront and state cultural issue.
b. Need well trained engineers
c. Yes to most of my companies
d. Not yet
e. Potentially
f. Spirit: Yes
g. PWI: NO
h. Economics of scale, and of operation
i. Support local operations
j. Yes, customer
k. Yes, labor cost is the primary reason for adding additional manufacturing plant in other countries. The labor union makes it hard to compete with other countries. But there are few limitations too. The skilled workers with the knowledge comparable to Kansas environment are really hard to find.
l. No. we are a small company, locating in Wichita, helps us very much on work labor and supporting services.
m. Labor, local/state support/ need help – incentives benefit

D. If you are not selling internationally, what barriers are stopping you?
a. Extremely high costs and time consuming
b. Small companies need help transitioning into new markets outside their traditional footprint. This is both domestic and international markets.
c. Barriers that apply both internationally and domestically:
   First, regulatory compliance is a problem in the agriculture manufacturing sector. Second, in the same sector, it is too difficult to keep track of the current iteration of the farm bill. As subsidies are moved around the agriculture sector, that impacts what customers will buy. Agriculture equipment purchases are to a large extent driven by subsidies in the farm bill.
   A barrier in all sectors is that manufacturers are unable to hire trained workers. Well trained engineers are very difficult to hire. Most companies using steel or iron in production would hire trained welders immediately if they could find them.
   Also, there seems to be a perception that manufacturing is “dirty.” Parents are not familiar with modern, clean, manufacturing facilities so they discourage their children
from going into fields that lead to manufacturing jobs. Schools focus on college prep and discourage students from learning the skills to work in a manufacturing environment.

d. Not currently, but would like to expand
e. Companies that try to sell internationally normally do not have the systems in place that will allow for good international marketing. Rather, they depend on formal relationships to facilitate international work. Smaller companies tend to have more innovative marketing strategies
f. Government red tapes, taxes, laws and regulatory
g. MW: We have taken steps to globalize, but haven’t seen benefits.
h. SE: We are very dependent on government regulations and trade commissions. And they are not favorable for our industry.
i. Fear
j. ITAR laws, Trade Laws and import export barriers
k. Connections
l. Procurements system – barrier connections

3. Partnerships
A. How do you choose your suppliers?
   i. Vendors are critical, Delivery communications.
   ii. Based on the needs of the company and our customers
   iii. Cost and reliability
   iv. Quality cost, options. Some directed by customer
   v. Ability and reputation
   vi. Capability, Quality, lost, schedule
   vii. Capital equipment purchased from China because US suppliers are six times the cost
   viii. Many supplies cannot be bought in US. Supporting US suppliers is difficult and expensive. Most key suppliers are in China and determination of quality prior to purchase is difficult. An “ecosystem” is needed...an environment that supports innovation, manufacturing, etc.
   ix. Meeting time needs, All supplies come from U.S., Developing relationships in Wichita, Capital equipment come from out of state – cost us six times
   x. Spirit: based on quality, price and Deliveries
   xi. PWI: Quality of services and product, Price
   xii. SE: We use industry suppliers whose’ core customers are processing businesses and deal with large bulk orders, especially for bulk items. We are also a feeder to other markets.
   xiii. Very carefully
   xiv. Choose wisely
Those who keep creative purchasing program

Logistics offers

They must be able to operate in the virtual electronic world. Also when the company sells the products to specific country, sometimes it is a requirement to have a partner there.

No certain rule. Contact many suppliers every time

B. Where are your suppliers located? Could you benefit by having any of these suppliers closer to your manufacturing location(s)?

i. Some global, more regional

ii. Mostly USA

iii. Regionally

iv. Across the country

v. Our suppliers are all over the world

vi. ALL electrical components come from China. Wichita has many small businesses that could support each other, but connecting and finding the business that could meet our needs is difficult. Would rather buy locally.

vii. PWI: 250 miles around Wichita

viii. Spirit: all around the world

ix. JH: In aircraft engines, choosing is based on history. There are only a few well established companies that even offer a product to choose from.

x. RD and BG: There are a lot of people out there but there isn’t a 1 stop shop for all out needs and there is not information out there about what businesses offer what services. It’s hard to get that for starting business.

xi. SE: It’s hard to find hourly employee and skilled mechanics. We’re having a problem with attendance.

xii. AB: We need to add key positions with people with broad skillset.

xiii. JH: I’m still working on networking.

xiv. About the Cessna, 60% local and 40% international. One of the problems is the Metrics dimensions. Working with the internationals become hard sometimes.

xv. All around

C. What benefit would your organization receive if it could source more products locally?

i. Reduced Freight

ii. The cost could be reduced and receive material more quickly

iii. ?

iv. Yes

v. Customer service, honest reviews

vi. Efficiency
vii. Distributors supported by major companies
viii. Better collaboration as well as reduction in transportation cost
ix. Lower cost and lead time

D. What current partnerships are critical to your success? (E.g. Do you have special distribution agreements? Do you partner with another group for research and development?)
   i. None
   ii. None
   iii. Much more collaboration between secondary school districts with manufacturers to create partnerships.
   iv. Tier I and strongly depends on Tier II
   v. Consignment inventories
   vi. About the R&D as it was mentioned, for focused researches, the local universities are the partners.
   vii. No. none

E. Have you identified additional partnerships that would improve your success? If so, what kind of partnerships are you exploring?
   i. Yes, suppliers who are willing to have similar culture as our company
   ii. No
   iii. LY: Partnerships are key, using other outside resources
   iv. DM: In education, have businesses help develop curriculum
   v. Out of the Wichita area WMA (Wichita Manufacturers Association) appears to be the only generic manufacturing group. There are a few specific groups like American Foundry Society, but not much locally other than WMA that gets manufacturers (in general) together to network, mentor, etc.
   vi. This is in contrast to the construction industry that has many groups as support. Here are some of the more active, general groups:
      1. KCA – Kansas Contractors Association (part of AGC and dedicated to heavy, highway and utility construction) (still pretty broad and a large base of employers)
      2. AGC – Association of General Contractors
      3. NAWIC – National Association of Women in Construction
      4. SMPS – Society for Marketing Professional Services (for the build industry)
      5. CFMA – Construction Financial Management Association
   vii. Yes, Partnership with Government such as the Department of Commerce
   viii. Volume discount program
   ix. Working with suppliers means transferring knowledge and empowering them to meet the products quality, so locally suppliers are more desirable and prefer to other countries suppliers.
   x. Yes, using others’ connections
Second Discussion Period: Please discuss Topic 4, Topic 5 and Topic 6 (20 minutes). The meeting will reconvene, and participants will share the main ideas from each topic with the full assembly.

4. Talent

A. How do you identify and hire new talent?

   a. Alternate certifications in secondary programs. Shortage of engineers – just getting people to apply is a challenge – work ethic is a huge challenge. Most training that is needed will be provided by the employer. There is a disconnect between engineers graduating from universities and the skill sets needed by manufacturing companies. Security level replacements and communization policy eliminates many “non-maternal” candidates from being considered for employment.

   b. Networking

   c. Interview, contact local schools

   d. Recruitment agency

   e. Online, KansasWorks, job placement sites

   f. Network advisors, develop

   g. Through KansasWorks originally now our HR manager handles initial contact

   h. Through career fairs, multi state

   i. In secondary education. Retired professionals can be a great resource for instructor.

   j. The two manufacturers have greatly different answers to this. The startup is highly specialized and recruits from three universities that teach their technology, largely focusing on KState and growing those graduates in their area. They need sources for other engineering discipline as they approach production. The established manufacturer mainly gets engineering technicians and some engineers from KState, where they maintain an office. The draw experienced engineers from local industry.

   k. Assembly personnel are easy to find, electrical engineers are in shortage.

   l. Where are students being recruited for engineering?

      i. Most of the recruiters go to the city. When a lot of the students with the work ethic and technical on hand experiences are from the rural side of Western Kansas.

   m. Where are the students going to work?

      i. The students only know about the larger company. Many of the smaller companies do not come to recruit the available students who may be of help. As a result the students may look outside the state.

   n. Partnerships with the school and their advantages:

      i. In Hutchinson there are programs for engineering and manufacturing that involve work and partnerships between the secondary and post-secondary schools.

   o. Identifying talent – not enough engineers, Universities specialize in their tech., Grow people at K-State, Needed sources for other engineering, Experienced engineering from
local industry, Engineers that have other talents, Schools should put more effort on hands exposure (welding, CAD/CAM)

i. Problems on new hire
   1. Cannot speak
   2. Cannot write
   3. Common sense

p. PM: New talent is manufacturing. Most are line jobs. Not many new engineering jobs. Look at military. Work with VA.

q. Spirit: online application via website, offering top 5 students in well-known universities in KS and also USA. For Technical positions certain qualifications and degrees are required.

r. PWI: no specific strategy, Housing is a big issue

s. MW: We’re really looking at core values of candidate. It’s not about academics solely.

t. RD: There seems to be a disconnect between broad based education from business specific knowledge.

u. MW: Immigration policy and laws are a stumbling block sometimes.

v. MW: At Cessna we’ve been contracting and lost or let go about ½ our work force. We have a lot of technically experienced people, and haven’t seen an absence, but have to attract someone with staying power. It’s tough to attract talent to Kansas and Cessna and get them to stay.

w. SE: I would move business out of Kansas – 1 reason is work compensation regulations. 2nd is utilities commissions.

x. Welders train in house

y. Use wsu school engineers

z. College

aa. Internship

bb. The internship programs are critical, more internship programs in targeted universities which help the companies to perform on site training for students should be considered.

cc. Yes, we are a small but growing company

dd. Network to recruit/retain students in our manufacturing production programs based on Kansas career pipeline assessments – in addition we host career fairs in each HS each year.

ee. There is more talent than needed in Kansas, however, there is a shortage of skill to fit the talents in the Kansas industries.

ff. There is a shortage of talents in trades.

gg. The talents go where the jobs go

hh. The internships can help to fit the talents in the industry

B. What kind of training programs do you provide to your employees? Who develops and delivers the training?
a. In education, the need to start younger to fill the huge void of future engineers.
b. Constant education
c. We have an apprenticeship program
d. MSC, IMM, RET, MCT, EET, Stackable credentials
e. OJT, Tech School
f. Internal and external, license, conferences, on the job
g. OJT, supervisors
h. Imagination Inspiration
i. When engineering should be marketed
   i. Before high school: There are very few programs that help push engineering to students who are young. EX. CAPS: a program in Kansas City where students are involved in getting students more hands on experience. This starts in late high school.
   ii. At girl scouts, they begin focusing on their participants at a very early age (possibly before junior high school)

j. Students today do not have a lot of hands on experience. The students are very scientifically oriented but have very little ability to connect what they are learning to their uses in the industry.
k. There is a training program in Spirit. Which is held externally or internally, managers define the required training courses for employers
l. PWI: they have internal training. Training is held annually.
m. Kingman County: on the job training
n. Place in projects at plant location
o. On-site training as well as paid tuition for them to participate in universities are the primary sources.
p. We provide professional divisions for our teachers to ensure classroom applications relevant to current systems/needs – our students have access to latest equipment – industry standards/ students one fill from quality instruction/ diverse course offerings – continued funding out to education will limit this.
q. All workers are honed to train

C. What type of experience and certifications/education do your successful employees have? (Think about this for different job descriptions.)

   a. Attitude! Critical to work environment, young folks don't have strong work ethic.
   b. High tech skills, welders/machinists/engineers
   c. MSC, IMM, RET, MCT, EET
   d. Many different skillsets. Maintenance, welding, machinists, Wakehouse, Heavy Equip, mechanics.
   e. Background, communications skills, computer skills
   f. Opportunities to partner secondary schools with manufacturing companies to train/impose teachers
   g. Sales and marketing personnel are difficult to keep.
h. PWI: mostly capabilities are considered for hiring.

i. Spirit: divers' qualifications such as skill sets, degrees, etc. even suppliers’ employees required to have some certificates in some cases. Engineers should go to some conferences and publish papers as well.

j. They use some training services of some associations as well

k. Technical degrees, engineering, logistics, marketing

l. Universities degree as well as VOTEK training

m. Obtain OSHA certificate, WorkReady certificate – etc. Also work to promote awareness of educational opportunities at every level. Community colleges, technical school, four year universities.

n. CATIA programming, graduates from WATC

D. Do you have trouble finding and developing the talent you need to be competitive? Does your answer vary based on the location of your facility?

   a. Work ethic issues are a problem

   b. Disconnect between skill sets of graduates coming from universities and what employers need

   c. Immigration issues eliminate qualified nor national applicants who have studied in the US

   d. When times are tough people seem to matriculate to US

   e. No

   f. Our industry partners struggle to find CNC program methods. Work ethics is critical

   g. Yes industry driven, not geographical

   h. Yes good talent is hard to find

   i. Yes work ethic is slipping. Welding and Machinists job = no people “new of manufactory is dirty work”

   j. Generally not; haven’t grown substantially in last few years. Location of facility is a factor

   k. Finding skilled workers is a major impediment to growth. Need more hands-on engineers engineers that can weld and build their design become better designers. Need engineers who can solder components on a circuit board and make it work. Also need engineers that can take a hydraulic pump and hoses and bring a design to life – at least through the prototype state. Need better CAD training – not just CATIA for the aviation community. New graduates generally can’t speak or express themselves clearly, can’t write, and show little critical thinking ability – they lack common sense.

   l. Higher wages can keep employees. Employees want to stay in Wichita once they are here, getting them here is difficult. Contract workers are becoming more popular due to flexibility and less cost.

   m. AW: Welder's and machinists are the hardest to find

   n. Overall: Work ethic

   o. Yes, Always

   p. RD: I’ve seen people who wouldn’t take a job in Wichita but move to Denver in hopes of getting a job.
q. Most managers work at different location in careers
r. One of the problems is the media as they shows that manufacturing is not a good area for continuing higher education for high school students. Scholarship for students should solve some part of the problem to absorb the talent students. Sometimes employee’s child has the Scholarship but even they do not apply. This is the problem of counselor that take them away from manufacturing. Prepare tour for kids and talk about computers and laser tag are the results of engineering and they should work in this area.
s. Also, an idea of virtual specific education for talented student around the globe had been mentioned.
t. It is a challenge to recruit/retain talented students with hard work ethic. The most talented students have many competitive offers/opportunities.
u. Yes, no\You are a loser if you cannot retain the talents that come from the overseas to the United States.

5. Process Technology
A. What are the most critical challenges faced by your firm related to manufacturing process technology (i.e. a new process technology) and technology innovation that should be addressed to improve your business’s prospects for success?
   a. Regulations can place local companies at a disadvantage when compared to outsourced/foreign companies.
   b. Disadvantages creates when in state manufacturers have to meet regulations that foreign companies don’t
   c. We have advisory committees to guide innovation acceptance and implementation
   d. Costs of equipment
   e. Competition from non-traditional (especially online) competition
   f. Adoption of automation -> needed but so expensive
   g. Efficiency in the field, communication between office and field
   h. Process flow – innovation in flow/service innovation
   i. Investment cost staying current professionalism
   j. Cost to develop, invest, implement vs. realized benefits, strategic timeline planned with new product introductions.
   k. Need incentives for organizations to collaborate
   l. At Dell, the problem arises when many companies do not have a need to improve their engineering.
   m. Adopting automation technologies to the general aviation industry
   n. Finding places to process is difficult, Need leverage outside resources-high tech machines
      i. Improvement
         1. The products side of dell has an improvement program
         2. Designing equipment to improve products and manufacturing
   o. Spirit and PWI: investment Cost
p. Companies should keep the technology running. Trained employees sometimes leave the company
q. Cost for new machines, improve based on standards.
r. The processing technology is being modernized at a fast pace, it is difficult for the small companies to keep up with the advancements in the processing technologies.
s. SE: This is like the chicken or egg and is capital driven.
  RD: If they look old fashioned they may not get it done.
  JH: I think it’s about how much money it takes and what you get from it. Some don’t have the business to do it.
  SE: We do have an advantage in cattle industry relative to region.

B. Is your firm required to have certain certifications in place to sell your products? (e.g. IE AS9100, ISO, Lean) If not, would you be able to sell more with these certifications in place?
   a. ISO
   b. Best practice for productivity
   c. Required FAA, AS9100
   d. Yes most have certain licenses
   e. In some industries
   f. Yes
   g. Individuals – state licensure(s)
   h. Startup selling to electronics industry, so will need ISO certification eventually, but not yet.
   i. Yes, both small businesses and large companies
   j. ISO-9008 has been key to success, production flow
   k. It is not required for selling the products, but to be efficiency manufacture the products, they are needed.
   l. Yes, AS9100, ITAR

C. What type of continuous improvement processes have you put into place? What kind of advantages are you seeing from these processes?
   a. Constant reflection at least annually
   b. CEM’s paid by the company
   c. Six sigma/Lean training @ HCC -> broad use of lean in area MFG.
   d. Lean & ISO certification have been big
   e. Implemented some lean into production
   f. Formal organization for CI, but blended into functional orgs through tools and processes
   g. Startup – design is conducted to allow continuous improvement later (DFSS)
   h. Maybe if an annual seminar, setup up by a university, or government, for the manufacturers to get together. This will help create a more benchmarked support for the manufacturing companies around the state.
i. Lean manufacturing, AS9100
j. State of art equipment
k. Standards paperless, having more fun (google standard work environment)

D. How do you determine what type of changes are needed in your processes?
   a. Either internally or supporting consultant (MANR)
   b. Internal assessment
   c. Industry input
   d. Customers’ new requirements
   e. Cost and benefit analysis
   f. Customer requirements

6. Other
A. Are there specific shortcomings or needs for infrastructure (i.e. transportation, telecommunications, etc.) that are critical and that should be addressed to improve your business's prospects for success?
   i. Roundtables are great events but there needs to be more opportunities to bring universities, OEM, and smaller manufacturers together for networking and conversation. What happens next?
   ii. Infrastructure/logistics
   iii. Cellphone, Airplane, web
   iv. Transportation: airline into Wichita can be (Easier?)
   v. Logistics, Inventory
   vi. Funds for local road upgrades
   vii. Unemployment compensation should be tied to training programs
   viii. Lack of “uncomplicated” help especially financial for small businesses
   ix. Funds to implement latest technologies i.e. latest auto lift or latest spray booth
   x. Infrastructure has some positives – cell phone infrastructure allows web access during drive from Wichita to Manhattan. A good airport and a high tech work force were key to the startup selecting Wichita. They could not base in Manhattan because the airport was inadequate. On the other hand, taking eight weeks to upgrade the electrical system is unacceptable.
   xi. Need better means of communicating resources for businesses. Current environment is difficult to navigate.
   xii. Many communities do not have the particular infrastructure required for many different type of industries to go.
   xiii. Certain areas of the state, communities have developed a “strategic plan” for the type of industry that they would like to facilitate for. Ex: McPherson has a large plastics industry.
xiv. Infrastructure - took 8 weeks to upgrade electrical system. Wireless access has improved - very useful time on the road

 xv. PWI: No
 xvi. RD: One of the big problems of getting candidates in and out of Wichita is the airfares. There is difficulty to get flights, and the expensive airfares.
 xvii. Need SBIR
 xviii. Funding for education. We need to invest in the future workforce

B. Are there specific state and local government programs and policies that are particularly burdensome for your business that should be addressed to improve your business’s prospects for success?

   i. All policies seem to be a burden – we attempt to meet all demands
   ii. Yes, 8a certification
   iii. Complexity of program enrollment -> KIT/KIR
   iv. Workers compensation
   v. Many others states have SBIR matching funds, this would be helpful
   vi. Yes, FAA
   vii. SE: The Utilities commission is hurting business for us both with rate increases and policies.
   viii. ITAR is against universities collaboration and student employments.
   ix. Having this roundtable is a good place to start. Also provide an evening event, spotlight careers in manufacturing.

C. How can the state of Kansas be a better partner in the success and growth of your business?

   i. Favorable corporate/income tax laws. Right to work – reduce impact of unions
   ii. HPIP
   iii. Stop regulating and get out of the way
   iv. Incentives not driven by job creation. Help in capital investment projects with no job growth but vital to future of company.
   v. Provide training dollars
   vi. When a product “which is a viable product” support it.
   vii. Universities, articulation agreements
   viii. Need to better leverage outside resources – K State, AMI, WSU. Need help to identify skills and talents available both inside and beyond the University. For instance, how does a manufacturer identify a particular skill needed from a high tech machine shop.
   ix. Additional training, linking businesses
x. There is a need to demonstrate that this state is a good state for manufacturing; this is done through facilitating better educational opportunities in the communities.
xi. Training workforce
xii. Continued contact and communication with industries
xiii. Not working between companies
xiv. Identify/create resource network – companies directory product/services – provide local/state business with network of resources.

Please take a moment to individually prioritize the areas that you believe address the biggest opportunities for improving manufacturing in Kansas.

1 – Most critical opportunity to improve the success of manufacturing in Kansas
6 – Not as critical to the success of manufacturing in Kansas

☐ Product Development ☐ Talent
☐ Marketing and Sales ☐ Process Technology
☐ Partnership ☐ Infrastructure

Thank you for your participation.