

# Start Up Boot Camp

## Session 1:

# Early Decision Making and Team Building

---

Presented by:



Hello everyone, my name is Cindy McManus and I'd like to welcome you to today's webinar, Start Up Boot Camp for University Tech Transfer Professionals and Inventors, Session 1, Early Decision Making and Team Building. I'd like to introduce your moderator for today's presentation, Gerard Eldering of Innovative Tech Ventures. Welcome, Gerard.

**Gerard Eldering:** Great, thanks Cindy. Well, welcome everybody to the first session of our start up boot camp. This is a great program. In universities and the tech transfer space folks are very concerned about startups and learning how they can make them more effective, a better commercialization vehicle. We folks in the tech transfer offices, faculty, entrepreneurs and supporting folks in law firms and such, want to know what the best strategies are, what the best approach is, how to develop startups and this series, this six-session series will be a great assistance in that. We have a great set of speakers throughout the entire series with a lot of experience with startups so we hope that you'll be able to join us for all of the sessions throughout the next six weeks here. Today, we're going to talk about sort of the early stages of the startup decision process and a lot of the different considerations that come in there, making the assessment of that technology, in determining whether it's really something that warrants a startup company, developing that initial strategy, that approach, thinking about funding in a variety of issues like that but I'd like to let our speakers really take over here. Let me give a brief introduction.

Again, my name is Gerard Eldering with Innovate Tech Ventures. We're a tech transfer venture creation firm located outside of Washington DC and I will be your moderator for this session and all of the sessions through the next six weeks. We've got a terrific panel today with a wealth of experience in the startups space, in university space, true experts. I'll introduce them all and then we'll turn it over to them. Our primary speakers will be Brian Cummings and Brian is the Executive Director of Technology Commercialization Office at the University of Utah and also Assistant Vice President for Tech Ventures and Brian's been in that role for less than three years but already produced over 50 technology based startup companies, a tremendous success rate, one of the best in the country. With him is Dr. Jack Brittain who is also with the University of Utah, as Vice President of Technology Venture Development and also highly experienced in the tech transfer space. Then we've got a panel of attorneys who will be assisting us in providing some advice from their perspective: Charles Cella is a patent attorney and co-founder of the GTC law group and is online with us today; Dr. Paul Rauch is a founder of the Evan law group, involved in patent prosecution and a number of other related activities and Adam Klaus is a managing partner of GTC law firm and heads the LA office and very involved in business transactions, among other things. So, terrific panel and I appreciate their being involved. So, with that, I'm going to

turn it over to Jack and Brian to start talk to us about the early stages of the decision making process with startups.

**Brian Cummings:** I'm the University of Utah. I can see I think I need to update my bio a little bit. So, I've been with the University of Utah almost five years now and we've started just about 100 companies out of the research that's come out of the University of Utah. So, as Gerard mentioned, it's really become a big, big enterprise as far as managing startups out of universities. States in the U.S. right now spend over \$30 billion dollars trying to build these types of technology ecosystems around their high value universities because that's where the brain power is, that's where the newer, early stage ideas coming from. That's where everybody's looking, the federal government, the private industry is looking at how do we build this innovation ecosystem, how do we create new jobs, how do we grow the economy and they're looking at doing it at universities but there's a lot of disconnect about how to actually do this and how well to do it at universities. So the University of Utah has obviously spent a lot of time under President Young and Jack Brittain's direction, as far as how we've been able to kind of really turn this around and make it our mission to drive economic development.

So, when universities start looking at this, it becomes an issue of okay, why do you want to do this? The main reason we wanted to do this was we really did want to drive economic development. We wanted to make an impact in our state and our local community and then really expand on that to see if we could replicate that across the country and world-wide but you really got to weigh the issue of okay, what's the main reason why you want to do this?

So when you look at what are the benefits and drawbacks, you can look at the stats nationally about what's going on at universities and I'll touch on some of those cause we just completed a national survey but universities now believe they really should be involved in economic development but it does become an issue when you look at 60% of tech transfer offices don't even hit break even. The royalties and revenue that come out of their office, it becomes a cash flow issue. So startups are very beneficial because you're obviously creating high value equity, you're creating jobs, you're creating economic development and you can also implement an educational component to that but one of the major drawbacks we hear all the time from universities is look, we have to manage our cash flow, our budget's tight so if you're not getting those fees from license fees, is it really in our best interest to take on equity and then wait it out until that equity can actually be cashed out or it becomes liquid and we can actually exit that company?

So those are some of the trade off decisions you look at but there were a couple of studies done and I'll make reference to one was out of Stanford and one was actually done in Salt Lake City and they looked at the value of the difference between traditional license and the value of equity and a traditional license basically pays what they found was an average income of about \$68,000 a year and less than 10% of all the licenses that are done out of the university, less than 10% generate less than \$1 million. So it's rare that you're going to get the big one hit wonders like you hear about a lot at universities but when they compared to that the average equity sold, the average equity that was sold when an entity became public or was just acquired was \$1.3 million and then if you take half that, the average value of half to the company's belt is \$692,000. So if you can invest the time and effort, you're looking at a 10X increase over traditional royalties if you can spend the time and you can wait that out to get a payout of your equity. So it obviously to, you know, it's great benefit in starting companies and then waiting and holding on to that equity.

So, if you look at the next slide, it becomes really important about who and how you involve in this process. So we make sure we spend a lot time at the university who's required in this and alignment is critical and Jack will talk about, you know, what the university did as part getting a total mission integration but if you're not involving all the individuals that you need for success in this process, you're going to start a few companies but you're not probably going to make a major impact in economic development so you need to involve your local government, you state government in the process. You obviously have to get the companies involved as early as possible. You have to get your entrepreneurs and I use the term capitalist in the most loving way because these are the individuals that really do drive most of the business inside of the universities. These are your angel groups and the venture capitalists and we've partnered very closely with this and then on the perimeter, we looked at our service providers because although it's not a direct alignment, you have to make sure that they understand what their role is in this process to make this all happen, as fast and as efficient as possible.

So while you're putting the structure together to say, okay, we really do want to start companies. We really do want to drive economic development. If you don't have everybody aligned and they understand the role in this process, it's going to be very, very difficult and why it doesn't work in a lot of communities is because a lot of communities end up setting up competing programs. So I mentioned the \$30 billion that states are spending, 60% of tech transfer offices can't hit a break-even mark so really, where is all that \$30 billion being spent? It's probably being spent in a lot of different areas and not creating alignment but it's creating a competitive situation. So you really, when you set this up and

you're really going to make this an overriding mission, you want to make sure you involve these people in the process.

When you look the next slide – so I'll touch on some of these points. So the University of Utah just completed a national survey of just US, all the US tech transfer offices, in tech commercialization offices. So we wanted to see what was happening and what are their greatest challenges? So if people are interested, I can share the full survey with them but I'm just going to present a couple of points here.

So, if you look at this slide, we said, do you feel responsible for economic development? 82% of all of the offices we surveyed, which is a huge number, feel they are directly responsible for creating economic development in the region but 78% of those same offices said they feel really underserved, underutilized as far as the resources they receive from their university directly and from their state, their community, their country is as far really being able to support and truly drive their challenge at economic development. So again, a bit of a disconnect. This is interesting so and then you look at the last stat, over half actually believed they're meeting expectations. So, when you drilled on that, what does meeting expectations mean and then when you look at the next slide so meeting expectations on the next slide. So we look at – these are the top universities at creating companies. So when you normalize these, the University of Utah actually was first and these are 2008 autumn results and then MIT and Florida and Michigan, Columbia, Washington and Stanford but the national average is actually just about three, it's 2.9 companies started out of universities.

So they actually believe they're meeting expectations and they're only starting 2.9 companies a year. Most people would say with all the federal research dollars, that's probably not that efficient and it's costing them almost \$50 million of the total federal research dollars to spin out one company. So, think about it, they're responsible for economic development, they don't have the resources but they actually believe they're meeting expectations so there's a lot of disconnect in this whole process of what that expectation is and then that's not properly communicated as far as what the value created should be out of those research dollars. So MIT actually spends about \$100 million in kicking out one company and the University of Utah spends about \$14 million kicking out one company. So you want to again, make sure you're measuring the right things and monitoring what those expectations are, if you're region and making sure that your expectations are aligned with the state in your community also.

So the next slide. What are the greatest challenges in driving economic development? Well, we mentioned that 72%, the majority of all these offices surveyed start less than five companies. So is that

really what you want to be doing? Is that what your community is looking for? In some cases it's yes, it's a good number but in other cases it falls far short of really making an impact as far as job and industry growth but the biggest challenge is that the universities told us was and you want to make sure again, this gets back to are you aligning the right people. If you're going to make it a mission to start companies and drive economic development, do you have the right people in your community involved in this process? So, 91% of the offices said it's very, very difficult to find management talent. So make sure you're plugged into those channels. 85% said it's really difficult to access early stage venture capital. So what are your channels for early stage funding and we'll talk a little bit about that and then access to the entrepreneurial network and the best place to really do that can be your home grown, right at your own university, right from your own companies and then that gets back to what is the mission of a university? Most universities obviously, it's a about education but starting companies is a real strong education component, start with the students, start with the graduate students and getting them involved in the process and that's where I'll turn it over to Jack, who'll about the mission integration at the university.

**Jack Brittain:** Thanks, Brian. This slide, what it shows is where universities traditionally add value, is in the idea and perhaps the proof of concept. The notion of doing a spin-off for us is about adding value to the technology so we do not have a goal of spinning off companies; we have a goal of spinning off, of adding value to the technologies created by our faculty and where a lot of the value generation is happening is in a spinoff formation or in just moving the technologies a little further along. So one of the most inexpensive things we do is to fund prototype development with the Micro Grants Program and that adds a lot of value to a technology even if we end up licensing it out. We license off about 70% of the technologies that we develop and about 30% or so are actually going to a spinoff cycle and we spend quite a bit of time actually evaluating the technology, on working on it before we ever do a spinoff. Spinoff for us is something that we're reluctant to announce. We want to make sure that we have the real deal. We don't want to just form shell companies. Part of the things that we have done to help the spinoff generation and notice I have the line in here very purposely at the commercial launch point is we're not really running our companies. What we are, are getting them ready to go out and get external funding and one of the things that Brian brought to the university is a program called Venture Bench and it has a series of services that we provide to try and accelerate our technology and make them more into companies and I guess another very important distinction that we always keep in mind. We tend to have technologies, we don't necessarily have companies and the process of bringing together a company is putting that intellectual cap altogether with human capital and financial capital. If I can get the next slide, please?

And what we're trying to do then, is add values through commercialization and what the invention needs to become a company is to market analysis. There is often a lot of product refinement that has to happen. We have a technology that's coming out into the market right now based on one patent but in the process of the product development, we produced seven more patents associated with the product had. It's an optically guided feeding tube but there are a variety of coupling devices and kind of enabling technologies that were important that we go ahead and patent and that product is a radically different product from the first technology that we have. Somebody has to worry about distribution and financing. Every step closer to the customer increases value and to the degree to which we can even use the university internally as a test market and we have some customer feedback, we're adding value to the technology. We're funded in our operation by – we get a 25% retained earnings that we are able to hold back and we're doing about 20 companies a year. We have about a million dollars a year we spend on this but this is \$50,000 a company. It's not huge dollars. We definitely understand our cash flow issues and if we forget them, our provost reminds us cause he's a very cash flow oriented guy and so I understand paying for this can be a challenge but in the scope of most university budgets is not enormous amounts of money. Our average prototype cost is only about 900 bucks. We'll give up to 5 to 10 thousand if we have to, if it's a fairly complicated system but we actually – our faculty we found, if we just give them the opportunity to do this, are quite frugal and they do it quite inexpensively. It's not necessarily a production-ready prototype. We have a very solid, we showed that it works and if I think a very important part for any tech commercialization office, is when you carry these forward, you need to make sure it works. It's not just a bench experiment. Next slide, please.

Give you a sense of kind of how we do this, we're multiple elements in our organization so the University of Utah ranks about 80<sup>th</sup> in the nation in funded research so we're not one of the very top funded research entities. We're also not, you know, terrible at it as well but this year we'll do about 300 million in funded research. We tend to generate about one invention per million dollars and we do have an inventive faculty, a strong faculty culture. I think we're getting a pretty high yield rate out of that and then, in terms of what we go out and take in to the market, we're roughly 70%, about one in three is something we think has real potential. We're about 70% licenses and 30% companies that come out of this. What we have supporting this, is an interesting group, our faculty entrepreneurs who are kind of a club and it's really helped support one another, they mentor one another. We're not hitting all of our faculty. We also have Tom Kennedy who is one-on-one advisor for people who're going through the entrepreneurial process and kind of walk them through as they get nervous about it. We also have very significant educational program integration. We have over 100 business people who work as volunteers with us and then we've

had an interesting experience in the past couple of years, of having seed funds being organized around our deal flow. So in terms of the kind of internal to the university, kind of eco structure, that's what's kind of evolved for us. If I could see the next slide, please?

One of our faculty coined this phrase, the gully of inconvenience and I think it's important to understand that even though we still provide a series of services to support spin-offs and we do it, I think, very economically, kind of real time, what do people need at this moment in time? If it's marketing support, if it's an HR manual, if it's insurance for the directors, you know, very real time, not huge amounts of money. There's still very hard work getting these things out but we're not seeing them, you know, die off at the rate that was previously our experience. The other thing that's been interesting is, I mentioned on the seed funds is that investors have started to see that they're going to get a lot of value out of their investing with us because we're taking on all of the distractions. So our goal with our support services is that anything that's going to distract our faculty entrepreneurs, the people that are taking on the task of running these companies, if they're outside business people, the critical path for us in every case is product development, technology development. We do not want somebody spending four months trying to design a corporate logo. It's crazy. We'll do that. It's not going to be what the company will have forever. Most of our companies end up changing their names at some point anyway, but we want to take away all of the distractions that involve legal work, involve putting together an HR handbook, even the accounting and financial services. We have a great provider who does all of the corporate secretarial services, to make sure all the corporate records are in shape. Want to get rid of all those distractions, so we're totally focused on bringing product to the market with the company, which is a good deal for the investors because every dollar an investor puts in goes directly onto the critical path. They're not putting money into a lot of other things.

We also involve students in everything we do and so the educational benefits are great. It's also a great way to integrate within community. It was in the university and then our faculty, our entrepreneurs in residence which are community people, the service board members, advisors and CEOs to our company, also are a great value we had. We don't pay anyone anything. This is 100% volunteers and we're fortunate to have Park City, Utah, which is – got a lot of Silicon Valley refugees there and that's probably where about 75% of our entrepreneurs in residence come from. Next side, please.

The returns from commercialization, I think, are important and you got to keep these in mind. We deal with a president, with the provost who wants to know where's the money and as Brian said, the return from equity and royalties can be very substantial multiples. The other thing that Brian mentioned and it's



a nuance and as we work with other universities, a lot of people are adopting this but we actually, through our office, run the commercial sponsored research for the university and we get a share of the returned overhead for running that commercial sponsored research and this year actually our commercial sponsored research will go over \$50 million dollars and so, at our overhead rate, about 18 million of that is returned overhead. We get a piece of that for running our operation. That's been largely our gross funding and because of the way the university returns from ownership are distributed with our faculty and department sharing, the university actually makes more money out of the commercial sponsored research and as we create a company, we're creating an ongoing research relationship. We really work hard to make sure that that exists and persists cause that's what keeps our companies here. We have a long history of losing companies to the Bay Area. We're able to anchor them into Utah to the degree to which we get them connected through the research at the university. So I might have the next slide, please.

**Brian Cummings:** And just to make a point about what Jack was just saying, it's really important that all the areas' universities, different countries, everybody plays to their strengths so Jack mentioned Park City. It is an amazing resource for us here in Utah to be able to go up to the ski resorts and the mountains and then find these unbelievable talent. So we pull more talent from Park City and the people fly in back and forth from California to help us run our companies, to help us structure our funds, to get them involved in inventing and vetting technologies for us. So I know everybody doesn't have a ski resort but everybody has some strength. They have an alumni organization, they have something that they can really go to, to pull that talent pool from and you really have to find out what that is, what's strong in your region and really play off that and it's made a huge difference here at the university and then one other point Jack talked about was getting companies involved so this is really difficult and if you're at the university, most companies say, man, I hate dealing with universities. They're slow, they're problematic, they're unrealistic, they don't have reasonable expectations but if you can reset their expectations, if you can be flexible in how you're involved with companies, you're going to see huge benefits and that goes back to that cash flow we talked about. Universities' tech transfer offices are really strapped because of their cash flow. So if you're going to say, we're going to start companies and we're going to wait out the equity, you have to find where you're getting your revenue from. Getting companies and getting involved in commercial sponsored research become a huge win for the University of Utah so when we started doing this, we were doing about \$16 ½ million. We'll do over \$15 million this year alone and that's just being a little more flexible, that's just setting expectations and being reasonable by how quickly we can move this along for companies but that's a direct benefit to the offices for become a revenue standpoint and from a cash flow standpoint. So you want to keep that in mind while you're setting this up.

**Jack Brittain:** And I think also the importance of this is getting the faculty to understand and we've been fortunate to have faculty voices who will stand up and say you know, doing this commercial sponsored research, joint translational research has made my research better. If you have a moment at some point go look at our annual report online and we have a faculty member who talks about how her research was improved by working on translational problems. It got her into some fundamental science areas which has gotten her even more NSF funding and now she's doing a second company and also is that set of activities as legitimate as she's now become the Associate Vice President for research also. So we have people who are actually engaging in these activities, who are moving into leadership positions within the university, who are very articulate about it actually makes us a better university when we're engaged in these kinds of activities. Next slide, please.

The other thing is we've put a lot of emphasis on and this is one of those things that we say and when we meet with other universities, I can see they kind of think, oh, yeah, yeah, yeah, yeah, of course we do this but it actually is, as subtle as it is, it's extremely important, which is our tech commercialization is seen as core within the university, not an entity that's outside the university and so we do a lot with students. Our tech commercialization office has got a lot of student interns in it. We're heavily involved with our campus entrepreneurship competition. We have an invention competition, we run the intellectual property clinic in the law school is funded by us, we have an invent program in engineering school that's funded by us, we fund the undergraduate research opportunity program for the university. So we're very, very integrated on the educational side. We have faculty speaking up on the research side and one of the consequences of this which is also quite unusual is that we've had over 20 million in donor gifts that have come in to support our commercialization function with the student engagement piece of it and so students having a great experience, donors love this kind of activity, they love knowing the students who have been involved with us and it's really helped us be at the core of the university and not seen as the enemy of the university. When I first assumed responsibility for the function in 2005, the tech transfer at the time was considered a outlaw organization, a lot of people didn't trust them. We were able to turn that around very, very quickly by really pursuing and being involved in all aspects of the university mission. Next slide, please.

Then we now have some other folks that are going to comment on what you need to do in looking and making these judgments. They're very important judgments on what you go forward with on this and so I'm going to mute for the moment unless some other people jump in.

**Hi, this is Paul Rauch here.** We're going to talk a little about development of the patents and you want to select the countries where you're going to be seeking your patents. In countries

where either the invention of the products are going to be produced or where they're going to be consumed. In essence, you don't need to lock up everywhere, just one or the other and that can give you pretty much international control of the item in question. Another case to be considered important is also commodities. In the case of commodities, that's something where the economy of scale is critical to the success of the product. In other words, if you can't manufacture on an international world-wide scale, then you can't really compete in the marketplace because you won't be able to get the cost of manufacturing low enough to compete effectively. Let me give a couple examples to put that in a better perspective. So, one good example are biotechnology type inventions. Biotechnology type inventions often can be used or are useful almost anywhere in the world although they're usually not very profitable outside of certain countries but they certainly have application all over the world. On the other hand, most countries do not have the infrastructure, the technology or the people to develop these or to actually create them. So China, the United States, Europe, Australia, to a lesser extent New Zealand and South Africa. Those are countries and places where biotech inventions can be made, even though they can be consumed all over the world. So, it's those highly developed technology countries that are important for the biotechnology.

Another extreme would be something like exercise equipment. Exercise equipment is really something that's only interesting to be consumed in countries that have more of a sedentary lifestyle. They also tend to be highly developed countries like the United States and Europe. There, we could manufacture the equipment almost anywhere in the world. It's usually not very high tech. On the other hand, the people who are interested in using it aren't located in most of the world. They're located in a very small portion of the world. So there we could lock up just the countries that are going to consume the product. The third example which is a commodity are semiconductors. In the semiconductor setting, we're seeing fabs or fabrication plants showing up all over the world but if they cannot manufacture on a very large scale, they cannot get their price point to be competitive. If we can keep them from one major market, most interest to us is the United States, then they can't really effectively compete anywhere else in the world. So there, with a commodity type product, we can limit our patenting to the United States in many cases and still have international control of the materials. I'm going to – I don't know if Charles had some comments about the scale of factors.

**Charles Cella:** No, I think you should continue and then I'm certainly going to touch on the competition market trends. I know they're points later in this slide.

**Paul Rauch:** Okay. So the next point to be considered when we're talking about patents is patentability and patent claim breadth. Just as a reminder, the claims of a patent is that portion of the patent which lays out the legal rights. So what are the functions of a patent? At minimum, at minimum, we would like our patent to prevent people from copying or knocking off our product, making something that's exactly the same. For that function, we don't need a very broad claim

at a very, very narrow, very specific claim, carefully targeted to our products will be most effective in serving that function.

The next thing to consider is we want to stop viable competitors. In other words, we want to have a claim that's broad enough, that covers simple variations of our inventions that could be economically competitive. They may not be exactly the same, they may be somewhat different, they may not be quite as good but under the right conditions, they could prove to be very good competition in the market place. Those types of claims tend to be a bit broader but we're still really have not gotten out too far from what we call the claim that prevents the copying, the picture claim. Lastly, there may be value in a broader claim that captures other uses for our invention beyond the product that we're considering. These types of inventions or these types of things that are covered by those claims, are not our product and they're not even in our market but they could represent significant value. The biggest problem with them in the start-up context, is they can be a folly, they can drain resources, drain funds, funds used for patenting even, if we pursue these broad claims too early on in the process. That can be very dangerous where it can end up wasting a lot of money. We can delay the patenting process. Many people look at patent claims and they like to see these types of claims. In most patenting context, we can preserve the rights, that broad value but it is not in our interest in the startup setting to pursue that. It's worth preserving but it's not worth pursuing. Much of that value cannot be extracted except through lawsuits and those lawsuits are going to take 5, 10, 15 years to resolve themselves. It's well outside of the time horizon of a startup company.

So lastly, I've noted beware of empty breaths. Empty breaths is claim, is subject matter covered by a claim which really has no value. There's lots and lots of ways to envision invention or envision possibly uses or ways to turn that invention, that in fact, will have no value. So many people want to focus on a broad claim but I think it's a stark context, it's very important to focus on the narrow claims and the narrow subject matter that is carefully tuned to advance the business objectives and the business goals in the time horizon of the startup, the three to five year horizon. Go ahead.

**Charles Cella:** So, the background that I have at GTC is – this is Charles – is primarily in working with companies on strategy and it's an inner section, although my experience is as a patent lawyer originally. It's now an inner section of a pure patent strategy and commercialization strategy and our client base is primarily venture backed companies, many of which come from universities like MIT, here in the Boston area and other places around the country and one of the things, I think, was presented early on and I think is – I think of as certain the paradox of university funded companies or university generated companies is that they are both underfunded and over funded. You often universities lack the internal resources to put together all of the key pieces of the puzzle that include, you know, technology, appropriate market research, etc. but at the same time, the venture funding in these spaces can be very

focused on certainly the latest hot topics resulting in multiple attempts to replicate a similar or essentially the same business model and that speaks to, I think, how important it is to understand the competition trends in the market, market size and who the likely players will be in any given ecosystem and typically, as we're doing an early stage patent program, one of the key elements that we unpack is the go to market strategy, not always something people think of as part of a patent program, which is historically focused on product features or differentiating technology features but as we look to the market, you know, we touch on points like what Paul talked about, you know, where is something possibly going to be produced or consumed but also who are the major players that drive the current dynamics in that market and how do they interact, you know, is it an ecosystem governed by, you know, two or three major dominant players who share it in an oligopoly like the lighting industry with it's handful of lighting giants. Is it an ecosystem organized entirely by a single, very powerful retailer, such as the ecosystems that are governed by Walmart and others? Is it like the software industry where a handful giants control the development and distribution of applications and it's by understanding how that ecosystem exist that you can start to measure out how a particular strategy is likely to play out over the long term. So, e.g. if you have a plan to – you hope to license a technology, if you're looking at an ecosystem that involves, you know, 50 or 100 different players, each of whom is making in low digit millions or \$10 million a year, you have a very poor dynamic for licensing because it's very hard to make any single case powerful enough to justify the resources that go into it. You know, similarly, if you have an intensely competitive patent landscape in a particular space, you know, even if it's, even if you don't have significant players out of the market, you may find that it's impossible to raise venture capital because the diligence process that you'll be going through in, at least the A round and certainly in later rounds of venture capital diligence, is going to identify significant patent risk that'll make it difficult to achieve funding.

So, I would say it's very important, even if the very early stage to understand the patent landscape and who represent, you know, potential threats from the point of view of patenting, especially other parties who are in the early venture stage, who may have patents and we see significant overlap very often in the opportunities we look at as multiple VCs fund essentially mirror image companies around the country and then, to understand, as an overlay to that patent landscape, you know, the actual competitive landscape and especially, you know, who are the key players who dominate the ecosystem. So understanding, you know, who they are and how they allow people to play, you know, turns out to be a very important factor in terms of really assessing both the feasibility of an opportunity. Is there something that can be developed and brought to market for high value but also in selecting, you know, whether it makes sense to incubate, to work in partnership with the company, to do some kind of joint venture or to plan on a licensing program and choosing among those different scenarios requires this groundwork and understanding the landscape and then, you know, in later stages of the work that we do typically also involves financial modeling so that you can model a given scenario. So although, you

know, they think some of the rules of thumb we're hearing are very consistent with our experience, that an incubation opportunity on average may be a much higher return opportunity. It depends very much on the market in question and we've had some exceptionally high value licensing programs where the dynamics set up in the right way to license, especially where there were multiple markets to tackle with the same technology and it would have been impossible to incubate enough companies to go tackle all of those markets. So, I think that again the upshot of that being, you know, do research and it's research beyond just technical feasibility and into the competition and the market.

**Brian Cummings:** On the next slide, obviously, it's a great concern when you're trying to start a company and this is Brian Cummings, and you're trying to start a company, you know, how do you do it most efficiently? How do you maximize your return on the small dollars that you have trying to do this out of a university? So, Jeff touched on this earlier, when we have really interesting technologies, most universities, they'll go to the companies, they'll go to the venture capitalists and they'll say, we've got this great idea and invariably the venture capitalists or the angel group will say, you know what, that is a really good idea but, it's just too early for me. So they say, I love it but you got to call me in six months, you got to call me in 12 months. Well, that can be the kiss of death because that is that valley of death that everybody refers to. So what do you do in that instance and what we do is we look at a startup entity. It's actually creating the ability to move that along. So if we can get small incremental improvements, small grant money into a company, whether you access it to the university, most states have funding mechanisms, funding programs that they can plug into but it requires a corporate structure to get that money into. So you can use startups as now a strategic vehicle to move technologies along. So you start a company and then you go access your state funding pool. You go access an SBIR program, you go access your internal grant programs. So we have three internal grant programs that Jack touched on but they're small amounts of money and small amounts of money end up making a huge difference in the value chain and it might not move it, the technology leap years but at least, it's moving and it's not just sitting there dormant and you're actually working on the technology and adding value and that value that you add actually equates to a much greater return and a much greater portion of the share of equity that ultimately you'll hold. So you have to take that into consideration. What do you want to do? Why do you want to start a company but that prelaunch could be a strategic decision about how I'm going to move a technology along and why I'm going to move a technology along. So what we've started to do at the University of Utah and Jack, you can please jump in here, but we look at starting a company and we tried to do it as efficiently as possible.

So we went to our local attorneys and we said, can you help us do some boiler plate agreements and they said yes, no problem, you know, we'll do it for free, you know, we'd love to get the work with the companies as they grow up. I mean, it's a real value in getting partners involved in this process and it doesn't cost much money or shouldn't cost any money if you have close

ties with your local companies and local law firms. So we had a local law firm, they put all our corporate docs together. Just as you have boiler plates, MTAs and CDAs and license agreements, you should get boiler plate corporate docs so we have a boiler plate LLC agreement, we have a boiler plate C-corp agreement, we have boiler plate by-laws, shareholders' agreements, board documents and then we use these as a starting template. So once you do this and you can do it repeatedly. I mean, it's difficult for one person to start one company and then go back and start another company but if you put the right systems in place, this becomes very easy and extremely efficient to just say, okay, here's our boiler plate docs, you plug in the inventors, you plug in the shareholders, who's going to be on the board, how many board seats, who you're going to allocate the initial equity to, how many shares you're going to allocate and then you're ready to go and you just file those and in most cases...

**Paul Rauch:** Add in on this, Brian, that we form these in our research foundation which is outside the university. You know, some people there definitely can be problems with holding these entities inside the university. We're forming them pre-revenue. We use our research foundation which is outside the university to give us some operating room to do this and then as soon as their investors' in, we're out at the insistence of our general counsel but we do have that kind of latitude that our research foundation creates for us. I want to add another point too in response to one of the questions that came in made me think about this. We actually and some of the grants programs that Brian mentioned, we give it to the company to do research back in the university and so we're actually creating the commercial sponsored research relationship with the company initially with our own money but what we're doing is, we're creating relationship, a set of option agreements. We use option agreements along with commercial sponsored research and an engagement of the faculty member in a different way. The faculty aren't usually running the company, they're pushing the technology and that has worked extraordinarily well for us, of establishing that partnership from day one that's going along with the formal aspects of what we're putting together as well.

**Brian:** Yeah, that's a great point. I mean, space is critical and we, I mean a lot of universities in states have great access, great facilities. We actually don't have a lot of facilities so the more we can do and I know there's tax issues involved but the more you can do these research agreements and maximize the resource and the capital equipment that you have at your university, the better off the company will be. I mean, they're not wasting their early stage cash and their money on buying big equipment or space. They're doing it within the confines of the research university, through commercial sponsored research agreements and through the corporate research agreements that you do with any other traditional company. So that really becomes a very efficient mechanism to do product development within the university structure but obviously there's tax issues that you have to address in certain instances about what buildings you can use and if companies can do research in certain labs but we've been able to figure out and our

general counsel's been very accommodating, is helping us work through these issues and structure the appropriate contracts and put those in place.

**Gerard Eldering:** And I think Paul's going to speak a little bit about the tax issues.

**Paul Rauch:** Just briefly I want to mention that intellectual property, particularly patents have had special taxation. The most important aspect of that is the originator of the inventions and this includes the inventors as well as the entity that was the original owner, not so important with public universities but it may be important as the intellectual property's developed within the company. That intellectual property, any royalties, any money that's gained through that, is treated as long term investments, long term capital gains. That taxation rate is half the taxation rate of normal income. So for faculty members, the royalties or the money that's passed university and that's returned to the inventors is taxed at this basically one-half rate and it's important to recognize that and it can affect how you structure the ownership of the intellectual property.

This is not specifically my area but it is a complicated area and it's worthwhile to consult a tax professional who has some experience with intellectual property when you're making the decisions on how this stuff is held. I'd also like to mention, just a little bit about the budgets that you assign to the different things that you're doing, particularly to the legal and the patent area. Early stage companies don't want to waste their money doing things, e.g. like freedom to operate, freedom to operate is the concern about whether the – I'm going to market or sell is going to infringe other people's patents. It's not that it's not important. The problem is that it's very expensive and it relates to the specific details of the thing that you're going to do or the product you're going to sell and where and how you're going to do that and those issues don't become well focused until much later on in the process. So, it's not worthwhile to spend a lot of money in that area. Also, although it does represent potentially great risk, you cannot mitigate that risk effectively if it's too early on in the process. You really have to see what direction the technology's going, where it's leading to and that the property begins to develop or the business model begins to come into good focus. That's the point when it makes more sense and usually at that point, there's a lot more money involved, much greater investments are being made and that it's a lot more appropriate at that point.

**Jack Brittain:** I think that's, this is Jack. I think that's a key point is really being highly aware of what you're spending, when you're spending it and being very effective with relatively small amounts of money. We don't have large amounts per company and so we have to be totally and constantly aware of okay, what's the value add at this point? What's the appropriate level of expenditure that we can support and then, our goal is to get in outside money or get in sales and boot strapping. We have a fair number of anti second boot strap off of sales or strategic



partnership but we try to start very lean and ask the really, ask the questions, is this expenditure something that's the best thing to add value at this point in time?

The other thing that's been real effective for us are partnerships where we're providing business flow for important entities. So we have a local bank, for instance, that provides all business accounts for free for all of our start-ups. We pay nothing for that. This is a great business development opportunity for them to get these companies in very early and we are even able to, by negotiating for a group of companies. So we do a group buy on insurance and we do a group buy on corporate secretarial services. Most of these entities don't require a lot of attention early on. We're able to get great value because we're buying as a group and we're also we're presenting to our service provider partners, a really good customer flow that's going to be lucrative to them in the future.

**Charles Cella:** Thanks, so just to echo that, you know, I think that there's also a growing ecosystem of players who can help you bootstrap in the service provider set for things like intellectual property and commercialization. There are – so we do some of this work, e.g., on very low fee basis for participation and equity in some cases and that's becoming, I would say, an emerging trend of aligning, you know, the service providers, you know, whether they be merchant bank type entities or law firms or other service providers. It is increasingly possible to find, you know, that kind of participation out there in this economic climate, especially, and then I wanted to touch for a minute on Carl's point about risk. I completely agree that doing significant freedom to operate work early on can be, you know, could blow the entire budget for a company much less it's legal or IP budget but we have found that VCs demand some degree of answer on freedom to operate, even at very early stage. So we've developed an approach where, especially where we're representing VCs that we call a risk profile that uses top level histograms and statistical analysis of patent risk and identifies the entities that play in a given space and can very often identify whether there's likely to be short term patent risk or whether risk is more likely to emerge much later in the game because the patents are held by, you know, sleeping giant laboratories or large companies or patent holding companies that only come knocking when you're making a lot of money and you can build it into the business model. So, you know, I do think that some investment of work on risk profiling, if not you're trying to deal with risk mitigation can make a great deal of sense evening this bootstrapping phase.

**Gerard Eldering:** Well, great and Jack and Brian, we'll turn it back over to you.

**Brian Cummings:** But I think we talked - this is Brian, I think we talked a lot about, you know, getting the right partners involved. So, as we mentioned there's so much that, in working with the university, that corporate partners, that legal partners can do in getting the startups lean and mean and kicked out of the gate as quickly and efficiently as possible. So Jack, Charles, the whole group, they touched a lot of this. Go out into your community, see what people can do to

help you and it cost us very, very little money to start a lot of companies because they basically, our partners do it for free. So we talked about legal, we talked about patent, we talked about corporate docs, we actually have a local accounting firm that does all our accounting and bookkeeping. They set up a real simple QuickBooks system that we have, it's a student accountant just do bookkeeping and they oversee all this. They oversee all the taxes that we file for our companies but they're actually overseeing it because they want the business as these companies grow up and that's why they're willing this early stage risk because they know there's going to be successes that come out of these university entities. We have student graphic designers, we have people out of the fine arts that help us do website design, out of computer science that do website design. So you can really do this very, very efficiently by getting the right partners and students involved in this process.

**Jack Brittain:** Now, this is Jack and I think that most universities are guilty of boundary protection but this is really an arena where you want to open up the boundaries, have lots of people in. It's in the universities' interest to move these things forward. A lot of universities have a protection logic about what they're doing and you can protect things to death. When we actually interviewed Brian to bring him in, he used this great analogy. He said, you know the problem with most commercialization offices is like going to the library and you get the feeling the librarians don't want you to touch the books, they don't want to let you check them out because you might damage them and you might lose them and a lot of commercialization offices are the same thing. They're trying to protect and in the protection, they're really strangling. You got to say some stuff's may be going to get damaged, you might even lose some things once in a while but if we can get high momentum in moving things along and really get a system of partnerships in place where we trust the partners, they understand what we're doing and they can do it highly efficiently also. Our efficiency becomes their efficiency then we can really handle a lot of volume of activity for very, really very modest amounts of money.

**Gerard Eldering:** If you want to cut, John, on the advisory and literacy programs through our entrepreneur and residency programs?

**Jack Brittain:** Yeah, I think it's also one of the things that we're discovering and these are hard to make this work but I think it's, we're kind of coming around to – there's got to be one person in charge. It's very, very important that these entities as they start to really start to get some legs under them and they're ready to go, there's got to be one person in charge and we're moving in the direction of not having a premature board per se; yes, an advisory group; yes, different sets of expertise but we got to have a CEO in here at some point who's entrepreneurial. They need to create their own team and they need to be in charge of their own board and so the leadership though, I mean, is we feel real important where we've really seen technologies turn into companies very quickly. We've been able to get a strong leader in there who took charge and made their own team and so, advisories real important but I think that leadership element for us,

we've come to a realization that that's got to be there. You got to be real careful about getting the right person in, on spending some time in that process, the relationship with the faculty member is important. We use our faculty outreach people to help bring the faculty member into that relationship so that they have a trusted peer who can help them understand what's happening as value is being created in the company. We try to get people to focus on value creation, not ownership share. Ownership shares are totally wrong thing to look at, they need to look at value that's being created as they're bringing in partners and having – but having a key person in there is extremely important and then, it's important that the university get out of the middle of it, I would argue. We can't, you know, continually to mediate it. It's got to be a real clarity that there's a person in charge and the faculty member in some cases, we've had to pull out of the company and just say, you're on the university site, you're not involved with this anymore.

**Gerard Eldering:** And Adam, I think you had a comment? Sorry, Adam, are you there?

**Adam Klotz:** Yes. So I think this all connects up nicely with a point I wanted to make with the nature of current economic climate and where VCs and traditional funding sources are. They're pushing to see companies more and more mature before they're willing to really write checks. They want to see contracts, they want to see revenues and so the funding challenge is you need to be more and more mature to get access to significant funding which actually has kind of paradoxically created some opportunity to build your team in a non-traditional way a little sooner. So, I think the reason you're seeing accounting firms, law firms, executive search firms, a whole host of professionals that were much more cash on the barrel folks and then tried some things in the dot com boom and bust where they wished they had just been cash on the barrel, where now they're finding real success in supporting companies and helping incubate them earlier and doing it in ways where they don't charge very much, if anything, at the beginning where they take some equity or it grows into a role and it becomes a marketing capability. So I think it allows that team approach that's very healthy and on the partnering and the leadership role, I couldn't agree more that you need a strong executive leader which is very often not the inventor and you know, so my firm, e.g., we have a relationship with Korn Ferry, the world's largest executive search firm and we regularly will go out and poll and canvass and try and get some CEOs who are looking for their next thing, interested in a nascent technology and get them involved rather than having a company governed by committee of people who are part timers and really all kind of theorizing as opposed to rolling up their sleeves and working in the trenches every day on turning this into a business.

**Gerard Eldering:** Thanks, Adam and Jack and Brian, you want to take back over?

**Brian Cummings:** Sure. I think we can go to the conflict of interest if you guys want to touch on that now.

**Gerard Eldering:** Yeah, Charles, were you, did you have some comments on that?

**Charles Cella:** Yeah, I think Paul may have some comments on that as well but this is very quick point, you know, which is just that in forming up the foundational agreements, it's important to just keep in mind that there are potential conflicts of interest, you know, between the university, the founders, the company that's being founded and then, among the founders and so, it's another area like tax, where having an appropriate – having appropriate legal representation is very important, including, you know, either a waiver or direct representation of each of the players involved, professors in particular very often I think rely on the university to represent their interests and that can create problems downstream where they discover that, you know, the university lawyer was not in fact chartered with representing the professor but rather the university. It's not always something well understood.

**Paul Rauch:** And here's Paul just for a second. It's also important to have a good understanding of the different financial interest particularly people who are involved in the patenting aspect. It's often the case where we need to present evidence in a form to the patent office where there's no sort of live person there. It goes to the attorney and if those biases and are not basically laid out for the patent office, then you can create problems in the patents later on down the road.

**Jack Brittain:** This is Jack. On the conflict of interest side also, anybody who is with the university will immediately recognize, if you're doing commercial sponsored research back inside the university in support of a company, that you'd have to be highly cognizant of any biases that are introduced by conflict of interest and I always said there's nobody more concerned about conflict of interest than our operation because we have to provide very legitimate research results that are going to be tested by the market. We got to make sure that there's high research integrity in everything that we do. We, as a university have a disclosure in managed policy and we have – our office is extremely interested in that those disclosures occur and are very actively managed, it not just be something that is done symbolically because the research integrity on the commercial sponsored research side is very important and that's even magnified when we have any kind of human subjects in the medical arena.

**Brian Cummings:** I think we can move to that next slide now. So, I'm sure we'll have to pick this up a little bit so we want to leave time for some question so we'll try to pick up the pace a bit. We got about less than 10 minutes to go through the remaining slides. I think when we're talking about money matters and inventor buy-in, we talked a lot about the value versus the equity. There's obviously a great return in investing in equity in companies. There's been a lot of reports out of different universities and Stanford that say equity pays more than royalties if you can build the right infrastructure and if you can actually wait it out and that's a difficult situation for universities but one of the main points on this slide is really getting to the inventor buy-in. Inventors have a really interesting perspective and it usually just comes down to trust and we spend a lot of time at our university trying to build trust with our inventors to say, look,

our job is to make sure that we're looking out for your best interest. We don't get anything out of this. We're just simply a service provider. So we do what's best for you and the university. They really believe that. I mean, it's just a difficult situation to be in. So they always think they can do it better and that that equity is going to be so valuable they're going to fight for every fees. So, if we're involved on a company, we have a series of outlines, we have a series of different structures that we present to them. So if they come to us, which they do a lot and say I want to start a company, they have to provide us with seven different steps in this process, a commercialization plan, a management structure, who's going to be involved, what are your milestones and then, if we involve them in the process and we say, well, we can start this for you. We do the same thing but we set up all our companies as SBIR type companies so it's 51% goes to a PI. We have a really standard structure just like we talked about doing boiler plate agreements but it's a really complicated discussion when you talk to an inventor about how do we set it up? What's the equity going to be worth? What's reasonable for you to negotiate? And what's your take on both sides, the university side and the company side and you have to be sensitive to the inventor's needs, obviously because they're real interested in making sure this moves along as quickly as possible.

**Jack Brittain:** And Brian touched on that we have a very specific kind of sequence of activities that we can show people and before we have this sequence of activities, we had this funny experience that shows you that for the inventor's first time through it, they don't really understand what's happening. So we had an inventor, we said we've got to form a board for your company and his response was, I can't believe you don't trust me, what do you mean you have to have a board? You want a bunch of people to watch me and we said, no, everybody forms a board and we now have a sequence of activities which is you're on the next step, all we got to form a board and that's a good thing and then you're making progress but the inventors, you know, sometimes they just don't understand what's happening and that was a real eye-opening comment for us of how they could just see things totally the opposite of how we were moving the company along. Now we have this kind of design model that we can show. Most faculty are very goal oriented. If there's a step by step, they want to make the step and so that's been a great tool for us, very simple set of kind of steps they go through at different phases of company formation. They now understand that's the process, not a judgment we're making about them.

**Gerard Eldering:** Adam, you want to give some input onto that?

**Adam Klotz:** Yeah, I think there's a huge education process typically that goes into any inventor whether at a university or not, just in terms of what the model, the typical models are for creating a company and an institution around taking ideas and technologies and turning them into products and businesses. I think the value versus equity dichotomy is a great subject that I always spend a lot of time talking about because particularly, you know, the more

mathematically inclined the inventor is, usually the more complex the 15 worksheets, spreadsheets I get on their plans for how they're going to whack up the equity, right from beginning and I've seen more inventors spend an inordinate amount of time focusing on permutations and possibilities about ownership and equity where there is a path and a kind of tried and true ways that these things happen and just getting people to recognize that, you know, the percentage number is not the be all end all of the process but getting to success and having whatever percentage it is, be worth as much as possible from an economic perspective and also setting up a governance structure and something that allows the person to achieve their objectives of how they want to live and do things everyday is vastly more important. I don't know if there's some other subjects we're going to get into now.

**Jack Brittain:** I think we can probably move on to the next slide. So, this is just a lead in to the next slide and talking about again how important it is to create alignment if you're going to make it a strategic mission to start companies and really impact economic development. So the next slide. This is it, in a nutshell. Basically, this is what we do at the University of Utah to create companies and this is specific to our programs but there's a lot of generalities in this process and I'll break out the different sequence of this but you'll see at the top of the bottom there's community instructions. Everybody has a specific community they want to tap into and there is some others. There's a lot of overlap in the actual structure that you'll want to put in place but move to the next slide. So when you look at, when we started this out, the university was actually around 94, according to the autumn rankings as far as how well we did at commercialization and starting companies and we were able to move into the number one position in a fairly short period of time but a lot of credit goes to Jack and the president because if you look along this arrow here, we did a reorganization to align ourselves with the business school. We engaged the community, we said we're going to serve everybody in the community and then we made sure we added value in that process. Next slide.

So when you look at who's in our community, they're the exact same people that are in your community. So everybody's got student involvement, everybody has entrepreneurs, everybody has businesses in their community, you're involved in state and local government, the entrepreneur population, you're at the university and then your venture capital and angel groups. You have to make sure that you address a need and then you actually have to add value and serve these individuals. If you can do that, it becomes quite simple because they actually do the work. They're the group that does all the work as far as starting the companies. You're simply a facilitator and it becomes quite an easy process once you get this into a really high functioning system. Next slide.

So we looked at each one of these groups, same as you would and say, okay, who am I going to involve and it's not a step wise process so we said, okay, we're going to engage the students, where do we find our talent network, how do we support the universities and the entrepreneurs

and then how do we build the right funding mechanisms. So these were the needs assessment that we built and then once we said what are our needs for each one of these groups, then we could build in programs. Next slide.

So these are all the programs that we built at the university and there's probably another seven or eight that we built into this so each one of these little circles bubbles actually represents a different initiative and I don't have the time, I'd be more than happy to go into details with anybody who's interested about each one of these programmatic function but the take home messages here is that you can just start filling these holes so you have a hole, how do I engage students? Well, you do business plan competitions. We have internships, we have law clinics, we have the Lusane Center where they do marketing and business plan development, we involve companies with the way we structure standard agreements, we do research and license agreements, we go out and we have an entrepreneur residence program and to find talent. We have an entrepreneurial faculty advisory group to do peer to peer networking for inventors that have already succeeded in companies to counsel other faculty inventors and then we put a series of funding programs in place. So just think about where you need to start and you can start anywhere in this process. To start feeling holds up and you'll realize over time, you've actually filled up a lot of the holes and you're addressing a lot of needs in this process.

**Jack Brittain:** This is Jack and I think the holes is a good analogy. This is not something where we had a grand master plan and started designing things. We actually is very much an evolved system where we had a set of objectives as we start to meet them and engage in partnerships, our partners bring programs to us constantly. Our faculty are, you know, very inventive on the student side, they can get very engaged in that side of it and so there's not a master plan behind this. This is an evolving system that's responsive to needs. We have, I think, alignment and clarity of goals and then we let other people figure out how they're going to engage with us.

**Charles Cella:** That's a really good point. I mean it is, it's just filling holes, think about it really simple but you can start it anywhere and you should just pick a place and who's most active and try to help them out with a new program and the next slide.

One of the holes we filled was, it's really difficult to access early state funding so real quickly, we just went around and we partnered with one of our venture capitalist in town and we created this fund, Pixstar which was a hybrid fund of kind of a real creative structure with angel groups and the sophistication of doing a lot of due diligence and making sure you're picking the winners of a venture capital fund so Pixstar's now one of the most active early stage funds in the country. It's just \$15 million max. We have about \$10 million in the fund right now and we've done already, we've done 12 deals. We've let nine of the deals and the companies that we've already invested in have generated over \$13 million in revenue. So it's been a great success in just getting an early stage partner. Next slide.

And so we get accused a lot. You want to make sure of what your tracking is really important to what you're measuring so we always measure the strength of our companies that they make sure that are adding value. So this is pretty standard but if we're starting a lot of companies and we've started almost 100 companies, you want to make sure that you communicate to the outside world what's happening to these companies. So you can see how many our venture fund and we've had one exit, how many have corporate partners? We've lost 17% of those companies which are still barely low. Some have sales and some we actively go get SBR funding but make sure you're measuring the right things to see that you're adding value and these companies are moving along the value chain. Next slide. And then, so I just wanted to really quickly mention this, this little bit of a detailed idea but the University of Utah is trying to partner with other universities an idea we had called Red Span and it really is making the technology commercialization office the kind of a center of the universe. So if you can do that and you can build these ecosystems around TCO and TTO offices and you can connect to the right people, so what this is, is basically we're trying to develop automated systems and then, how do you assess the technology and then once you do assess it and you spend money on it, how do you connect to the right individuals. So if there are universities that are interested, we'd be more than happy to give them more details or partner with this cause we're trying to make this an upfront free system to really help universities understand the commercialization process and get more startups out into their local areas. Next slide and then Jack can talk about some of our quick, our metrics.

**Jack Brittain:** And we've mentioned some of these before but we just wanted to summarize this is – we don't quite have our fiscal year 2010 data in yet, we're just wrapping up our fiscal year but we work with 87% of our academic units on campus in fiscal year 2009, very extensive student involvement and some of these students are involved in a minor way and some are involved in a major way but the student engagement also gets us involved in every corner of campus. Last year we had 23 new companies formed. The 2008 autumn data we tied with MIT. I don't want to make too much of that cause MIT's been at it a really long time, they've produced tremendous results. We're focused on this is marathon and we've been tied with them for one lap so far but we're doing a good job on revenue generated and then the commercial sponsored research we're finding a lot of universities that we're talking to, this is something they're jumping right on because it actually is a good revenue generator back into the university. These partnerships are a good pay off, you got to still – it's all still faculty directed research. We don't tell anybody what to do. We just bring in opportunities but we found that our faculty have actually appreciated these and it's helping form good relationships in our community as well. Next slide, please.

This is also 2009 data. We had 89 companies created. We've written off a few that were the walking dead this year to really get that in line. We do not operate only in Utah. We actually have quite a few companies out of area. I think this really key thing in the companies that are



not launched this year but are a little bit older as we're over 272 million in venture financing that have come in and that is covering about 30 or so companies. So we have some that are in 20 and 40 million dollar range and some much smaller numbers and then the other thing on the measurement side that's been real critical for us is the state is very interested in direct employment, tax revenues generated back. We're fortunate we have a state with a flat tax, we have a 5% flat tax, income tax so we're able to pretty easily compute what our state income tax contribution is but this is really getting people's attention and we also monitor long term what we've done. We've been launching companies since the 70s and we have currently 144 companies that have their roots in university technology. To be able to say to our state legislators that you know, we're contributing 26 million a year to a state budget. Our state funding is about \$250,000, we get virtually no state money. We're a big contributor back into the state and once you start putting an indirect employment in, a very big contributor back into the state and it goes a long way with the university as well and being able to make these points. Our president speaks about us almost every time he makes a public presentation. He's talking about what's happening on the economic development front, especially in this current climate where there's tremendous concern about it. Next slide.

So, I think we've gone over everything that we think we do differently. We didn't comment to it, trying to do things differently. I actually had no background in this all. I was the dean of the business school but we tried to do things that made sense and we tried to partner. I think that's a very key point as we partnered with the community. We didn't have enough resources just to build a big entity and so we partnered and we've used our partners very effectively and the commercial sponsored research frankly I asked for that when I came in on the job cause I wanted a predictable cash flow. I spent my whole career in universities and I know we have unpredictable cash flow is extremely important where I actually controlled the cash flow and so that's why I asked for it. It's turned out to be, I don't know if it's a stroke of genius but some of the best luck I ever had was asking for that up front. Now we see a lot of other universities that are moving in this direction. Next slide, please.

I think good economic impact, you know, we've worked with some regional universities that have no research funding and they're producing two to three spin offs a year. It's been a great contribution to their community. It's gotten them a lot of appreciation and a lot of engagement with entities in the community that support economic development. I think that is our last slide.

That's great, Jack, thank you very much and some great information. Cindy, let's go ahead and get some questions in. We've got some time for that.

**Cindy McManus:** Sure, we're going to open the floor up for your questions and your comments. We've gotten some in the chat already but I've promised we're going to open up our phone lines as well. If you've got a question, just press star one on your telephone key pad.

That places you into our phone queue and one by one, I will open up the lines so you can ask your question. So once again that's star one on your touch tone phone. If your question, by the way, has already been answered or you wish to remove yourself from the queue, all you need to do is press star one once more and that pops you back into our audience. Again, a brief heads up for those of you who do not recall how to use the chat, just look to the lower left hand corner of your screen and this would go for both our phone callers and our folks in the webinar chat, if you could please qualify your question and direct it to a specific speaker, that would be very, very much appreciated. You can just type your question in, press the blue send balloon to the right. That places your question into the chat queue. So, with that, I'm going to turn it back over to Gerard to see what our first question is.

**Gerard Eldering:** Great, great. Jack and Brian, we had a couple of question in the chat. I think you covered a lot of them about IP rights regarding the commercially sponsored research and also the mechanics on how you get the company started. Anything else to add on those?

**Jack Brittain:** I would suggest maybe Brian elaborate a little bit on the option agreements which are a very critical element. They're, I guess once we figure out that mechanism, it worked great and it was obvious but kind of coming to the point where we really understood how to structure the option agreements has been really critical in dealing with the IP issues.

**Gerard Eldering:** Great and I think you made it clear about the way you start the company that you actually start them in-house at the university for the most part?

**Jack Brittain:** Yes, that's correct. They're actually in our research foundation and some universities don't have that mechanism and it can be difficult. There're some states that prohibit universities from having any equity ownership and so those can be problematic. Our state actually used to prohibit the university from having any equity ownership which was the reason the university research foundation was created, was to be able to own real property and that includes our research park but also that became the mechanism for where we hold our equity stakes in companies and our intellectual property is also held in our research foundation.

**Brian Cummings:** And just to be clear, this is Brian. If we do start a company under the confines of the foundation, we don't count it until it gets funding so I think Jack mentioned we track a lot of companies' work, we track about 30. I think we're tracking 34 companies right now and we started probably 19 this year. That gives you an idea of actually what started but we won't count it until it actually gets funding or it leaves the confines of the foundation and it's off on it's own.

**Gerard Eldering:** Great. Well, very good guys. We don't have any other questions in the queue right now so I think we're going to look at wrapping up here. I do want to thank all of the panelists here, Jack and Brian, Charles, Paul, Adam, it's been a great session, great information

for us. I want to thank our audience for attending and the questions that you sent in. We're looking forward to having you online next week. We're going to talk about money matters and really drill down into the financial issues which we touched on a bit today but we're going to go more in depth on the different ways that these startups can get funded and what some of the issues you have to deal with everything from option pools through to investment schedules and milestones and that sort of thing. It's going to be another great session. So with that, I'm going to turn it back over to Cindy and thanks again for everybody participating today.

**Cindy McManus:** Alright, and thank you, gentlemen. This concludes today's webinar. Please join us on June 10 for Session Two of the Start Up Boot Camp series entitled Money Matters. We'll give you an in depth view of angel versus VC funding, valuation, equity allocations and the reality of playing in the inventors' sandbox. Just dial 1-877-729-0959 or visit [www.technologytransfertactics.com](http://www.technologytransfertactics.com) to register today.