



2014
**STATE OF
THE INDUSTRY**
TECHNOLOGY EDITION

The **BUSINESS-CRITICAL**
information **impacting technology** today.

CLARK SCHAEFER HACKETT

PEOPLE
to KNOW

TECHNOLOGY LEADERS AROUND THE TABLE

Alex Brown

Bricker & Eckler LLP

Scott Caine

GroundWork Group

Caroline Crisafulli

Minimally Invasive Devices,
Inc.

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LLC

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Amperand, Ltd.

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Jessica O. Winter

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2014 **STATE OF THE INDUSTRY** TECHNOLOGY EDITION

Welcome to our *lite* paper, an observation on the state of the industry, offered by a room full of People to Know in Technology.

At Clark Schaefer Hackett, we're proud to be industry specialists. We dig deeply into the industries we serve and share the resulting insight for the good of our clients and communities.

When we gathered the select few recently named "People to Know in Technology," we were privy to profound thought, unique perspectives, and intelligent understanding.

These technology leaders, recognized as the most influential in Central Ohio, illuminated the universal trends, challenges and opportunities seen nationally across the sector today.

The modern technology revolution is significantly impacting society, business and culture.

Exactly how it will *shape our future* is the **question** that remains.



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The role of BIG DATA is at the forefront of the immediate technology horizon.

We're beginning to see advanced analytics centers able to explore reams of data that even the most experienced CIOs can find **mind boggling**.

Statistics from the McKinsey Global Institute show big data will:

- produce an annual value of \$300 billion to the U.S. healthcare industry, which is double the annual healthcare spending in Spain.
- mean a potential 60 percent increase in a retailer's operating margin.
- Lead to the creation of 140,000-190,000 jobs for those with deep analytical skills.
- require 1.5 million "data-savvy managers."

But to get there more emphasis must be placed on training and development issues, hiring and getting younger people to buy into IT as a plausible future.



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EMBRACING BIG DATA



Angelo Mazzocco
Pillar Technology Group LLC

Everyone is waiting for this Big Data initiative to come through, and everyone wants to be part of it. The vision is there but we have to fully execute on it. Columbus could be the next Silicon Valley or Middle East. However you want to look at it, it will be phenomenal. What is happening locally is incredible. Look at what IBM is doing by establishing a data center in Columbus. Imagine taking large amounts of data for a specific organization and bringing in Big Data Analysts and Ohio State University professors to work on the analyses of that data.

What can you estimate, or presuppose from that?



Kathy Starkoff
Independent IT Consultant

The closer technology can be aligned with the strategy of the business the more significant the payoff. **Historically, much of the IT investment was focused on gaining efficiencies.** While this work is still relevant, a more significant impact can be realized through the innovative, strategic investment of technology, improving the top line.



Jared Faris
HMB Inc.

Central Ohio businesses have focused on building data warehouses and storing large amounts of information for the last 5+ years. It has only been in the last year or so that we've seen clients really invest in the business intelligence to understand this data. **Businesses are turning their attention to finding the signal in all of the noise.** A lot of this change is due to the increasing number of specialists who understand how to analyze data, and an ever growing list of tools to make it easier and less expensive to do.

EMBRACING BIG DATA



Alex Brown
Bricker & Eckler LLP

There are challenges attached to this notion of big data, as evidenced recently with the NSA and wiretapping scandal. **There is a social responsibility** that goes along with it and being able to manage it. Big data can be used in nefarious ways. There are some challenges in determining the appropriate use of big data. How do you use it so that you don't go too far and incur a backlash? This is not just leading edge, but bleeding edge stuff. Unfortunately, I have clients asking what the legal answer is. It is a challenge to actually anticipate where the puck is going and to get there in terms of the law. Our government doesn't act at a really fast speed, so our laws are always a game of catch-up and that can be challenging.



Jim Schrader
Technology Site Planners Inc.

Part of how we handle things with big data was worked out a couple hundred years ago and is included in our Constitution. You simply get a warrant if you want to gather information about what we are doing, who we're corresponding with, spelling out what it is you want to collect and the probable cause of a crime being committed. It's all spelled out in the Fourth Amendment.



Ross Kayuha
Nanofiber Solutions

The possibilities are widening and you don't have to go any farther than Google for a peek. Google knows my route home on a regular basis because I want it to know, and I get a benefit from it. In the future, you will be able to ask Google to analyze where the best place in Columbus is to establish a doughnut shop based on commuting patterns across the city.

GROWING THE TECH INDUSTRY



Alex Brown
Bricker & Eckler LLP

Ohio is experiencing a **significant competitive advantage** over our neighboring states through technology-centric programs like Third Frontier. There are too many people and businesses that still don't realize how lucky we are to have Third Frontier, which is publicly funded but aids private enterprise as well as public research and development. Over the course of the last decade, the monies have gone toward helping entrepreneurs commercialize new technology and leading to the start of dozens of tech and software companies each year, thanks to how the funds are managed through intermediate groups such as Tech Columbus. It gives us a significant competitive advantage **over our neighboring states**.



Caroline Crisafulli
Minimally Invasive Devices Inc.

Third Frontier has evolved as a major force in the state and is having a real and tangible impact in **further development of the technology economy**. We are a direct beneficiary of it, and are at a point where we are actually hiring and attracting people. That's a terrific spot to be in. If it were not for the Innovation Ohio Loan Fund, Tech Columbus and Third Frontier, I don't think we would exist. It's enabling us to **find talent in Ohio** because our office is here, but also because we do all of our own manufacturing in Ohio, near Dayton. To be able to do all of it here is a great story.



Kathy Starkoff
Independent IT Consultant

The State of Ohio had the **foresight some time ago to build a high speed backbone network**, long before the capacity was needed. Now, that network is connecting collaborators and researchers across the state and globally. When I talk with CIOs from other states, they are very much aware of and **envious of this valuable asset**.

GROWING THE TECH INDUSTRY



Jared Faris

HMB Inc.

It has gotten **much easier to sell Ohio to top talent**. Our recruiters talk to a lot of people, and it used to be that some of the best would think they needed to move to either the East or West Coasts to have a vibrant career. Now though, it's easier than ever to attract and keep people in the state. Especially in Columbus, **our message that we have interesting and exciting work**, that we'll invest in you, and that you don't have to move seems to be resonating.



Jeff Spitzner

Amperand Ltd.

There has been a real transformation going on for about seven years in our community that has been dramatic, vibrant and continues to evolve. One of my companies got the first State of Ohio Third Frontier partnership project with Ohio State University (2003) that enabled creation of a brand new technology for cancer data sharing. Those types of public-private partnerships are just starting to bear fruit in terms of growing companies and keeping talent here in town. The fear was that there would be successes, and they would be acquired and then leave the state. We now have our second generation of talent in town. We have many new networking events and I think that really changes (and charges) the atmosphere here.



Angelo Mazzocco

Pillar Technology Group LLC

I think real change in this region started before 2004-2005. At that time, you had the Ohio IT Alliance that was tied to the state's Department of Development, and they would distribute money to Ohio cities that not only went to Columbus but also to Cleveland, Dayton and Athens. They gave money to all these hubs to try **to foster technology growth**. I think that is where the root was. It wasn't great at that time, but that is what started it and it has continued to grow. Third Frontier tied right into it.

GROWING THE TECH INDUSTRY



Alex Brown
Bricker & Eckler LLP

One of the reasons we marketed the region's strength in technology was to move away from a manufacturing based economy. But now we have started in-sourcing some of this manufacturing, especially high-tech manufacturing. We pivoted to use some of the older infrastructure that needed to be updated a bit. **Today, we're able to join our manufacturing industry with our technology industry.** Some of these unanticipated benefits have been really nice.



Jessica Winter
Center for Emergent Materials,
The Ohio State University

Give credit to the angel investing culture. Those groups have received support from the state and that has attracted more investors. The Ohio Tech Angel Fund is one of the **largest angel investment organizations in the country** and that is helping to attract new deals to Ohio.

RESUPPLYING TALENT



Jared Faris
HMB Inc.

Investments in training are an essential tool in keeping our talent pipeline filled. IT consultants seem to hit their stride after their first couple years of experience. We realized that we couldn't just go out and find enough people at that level and instead **created a training program** to help create them. We hire from a number of nearby colleges and universities and have an intense training boot camp we run them through. Then we place them in a **team environment with more experienced people** and a structured growth plan. A consultant with this training and 6 months of experience performs at a level I'd normally expect out of a 2+ year person.



Mark Norfolk
Fabrisonic LLC

We are more in the manufacturing space and less in the IT, but it is the same problem with getting people with **computer numeric control and machine skills**. We are starting to go into the community colleges and picking people who are in their first year at the community college and bringing them in as interns, and then they have 2-3 years of experience when they graduate, then we hire them and they are already trained. **It's an investment.**



Angelo Mazzocco
Pillar Technology Group
LLC

Don't bank on the polyglots to always walk in your door. Polyglots are people we expected to have five to 10 years of experience in multiple computer languages before they walked in. There are fewer of them today because they are so in-demand. **You need to have a development plan for people.** We are doing that and are seeing technology companies, and companies that use technology, moving in this direction. We hired a Chief Learning Officer from a local university who is helping us develop these processes and getting people up to speed quickly. The bottom line is what your customers think, and we're getting good feedback from them. I never thought I'd see this happen to this degree, but it is happening.

RESUPPLYING TALENT



Jessica Winter

Center for Emergent Materials,
The Ohio State University

The pipeline drain is a serious issue. I am directly involved in training future tech workers, and the trend has been very discouraging. At the undergraduate level, there is a pretty good representation of students from Ohio and the U.S. At the graduate level, it is almost entirely dominated by students from other countries. In the past, those students would come to the U.S., finish their degree and want to stay, and you would have a new person contributing to our economy. Now, they are not staying. Those are the mostly highly trained workers with a Ph.D. A bigger concern, however, is the negative perception of technology in general. High school students, for instance, are more than happy to play with their iPads, but they are not as interested in making them. They don't see the connection.



Kathy Starkoff

Independent IT Consultant

When contemplating the future of the IT workforce, one must consider the continuous increase in demand and the global work force. From a United States perspective, our unique broad educational framework and culture of creativity positions our young leaders to be able to **creatively integrate technology across diverse disciplines**. That is, they will be uniquely positioned to assume the most valuable of roles within the IT workforce.



Jim Schrader

Technology Site Planners Inc.

When we hire kids right out of school, **we hire great employees to start with**, we train them and once they get their engineering license, they go on all of these lists that recruiters have access to. It is a struggle once they get those few years of experience and credentials to try to keep them.

RESUPPLYING TALENT

**Benjamin Kern**

Benesch Friedlander Coplan & Aronoff, LLP

Younger professionals are far superior in their understanding of technology. They often prefer to work on a team, which makes it more difficult to have them work remotely, on their own in another city. But **what they can do with tech is intimidating**. They are ahead of the game in thinking like a business person.

**Scott Caine**

GroundWork Group

As far as the younger generation goes, there are no boundaries. You are going to have a full range of people coming out of college and you can put them on whatever spectrum you want. What defines these **younger individuals is their sense of fearlessness**. I say fearless because they are not afraid to step into new places and new things even if they don't have experience. They apply the skills they have, find people around them and ask questions. I am speaking specifically of social enterprise. In doing so, they are doing some innovative, sometimes technical, sometimes not technical, practical things without any experience, but **they are fearlessly jumping into it**.

**Jeff Spitzner**

Amperand Ltd.

There is a public relations issue in letting people know about all the opportunities available to them in the technology field. News organizations report about how tech stars are creating jobs. But **the jobs are for both tech and non-tech people**. If the tech people and communities can articulate what these jobs of the future are going to look like, it might help people take steps in the right direction. They may not jump on the path to get their Ph.D, but they might realize there are opportunities with these new tech businesses and then fall in love with the sciences and technology.

RESUPPLYING TALENT

**Jessica Winter**Center for Emergent Materials,
The Ohio State University

Research shows that educational opinions toward STEM careers form as early as age 8 or 9. That's when people start deciding they don't want those jobs. I think it has to do with how those types of jobs are portrayed. A good example is Big Bang Theory, which is a great show but it doesn't show what science is really like. And it makes it seem like this is how all scientists are; if you don't want to be that person, you are not going to follow that career. An example on the positive side is the CSI series. For those who want to study forensics and crime scenes it is exciting and they love how it is portrayed. **More positives need to be portrayed.**

**Ross Kayuha**

Nanofiber Solutions

A **lack of national vision contributes to the problem** of attracting younger people into the technology field. For instance, my brother is an aeronautical engineer because he wanted to be part of the space program in the 1960s. We have no large vision for where we are taking anything. Sure, we want to be energy efficient but we have one group working with solar, one group working with wind. It cries for a cohesive approach and gets lost standing alone. We need a real vision that gets young people interested.

**Jeff Spitzner**

Amperand Ltd.

Peripheral areas of the IT industry are a direction that can be taken and they aren't publicized enough. Sales for instance. Some of the best salespeople are those with no sales experience, but a passion for what they're selling. **They don't need to be experts in technology**, they just need to be interested enough in what they are doing to be able to use those communication skills to be able to reach out and talk to the public for you. So our local tech revolution can help create the next economy.

2014 **STATE OF THE INDUSTRY** TECHNOLOGY EDITION
LEVELING THE FIELD



Scott Caine
GroundWork Group

Technology is democratizing many businesses, which is lowering the limitations to getting into the game. It is making it easier for businesses, specifically not-for-profits, to actually have the same or similar competency. Before, it was relegated to the largest or best financed companies. **There are no barriers today.** The same technology previously reserved for the well heeled is being deployed in small businesses that have only 10 or 15 employees but who are doing really wonderful things. They might not be delivering thousands and thousands of dollars in revenue, but they are doing their jobs, and access to that technology is helping them compete better.



Jessica Winter
Center for Emergent Materials,
The Ohio State University

I interact with government-funded agencies in my role. One thing that I am really excited about is the **translation of technology in the marketplace.** It is not enough to discover something at a university site that gets nice publicity, but they want to see that it finds its way into industry and leads to job creation. They are starting to put their money where their mouth is. They have started this new innovation core program to train researchers. They are really looking at small business innovation and moving technology forward.



Kathy Starkoff
Independent IT Consultant

The introduction of easy to use tablet technology like the iPad has changed the game in education, from very young children through advanced higher education. The opportunity created by children as young as 2 picking up a tablet and readily engaging in interactive learning is exciting; **these digital natives will naturally be comfortable** and adept in using and innovating around IT.

ABOUT **CLARK SCHAEFER HACKETT**

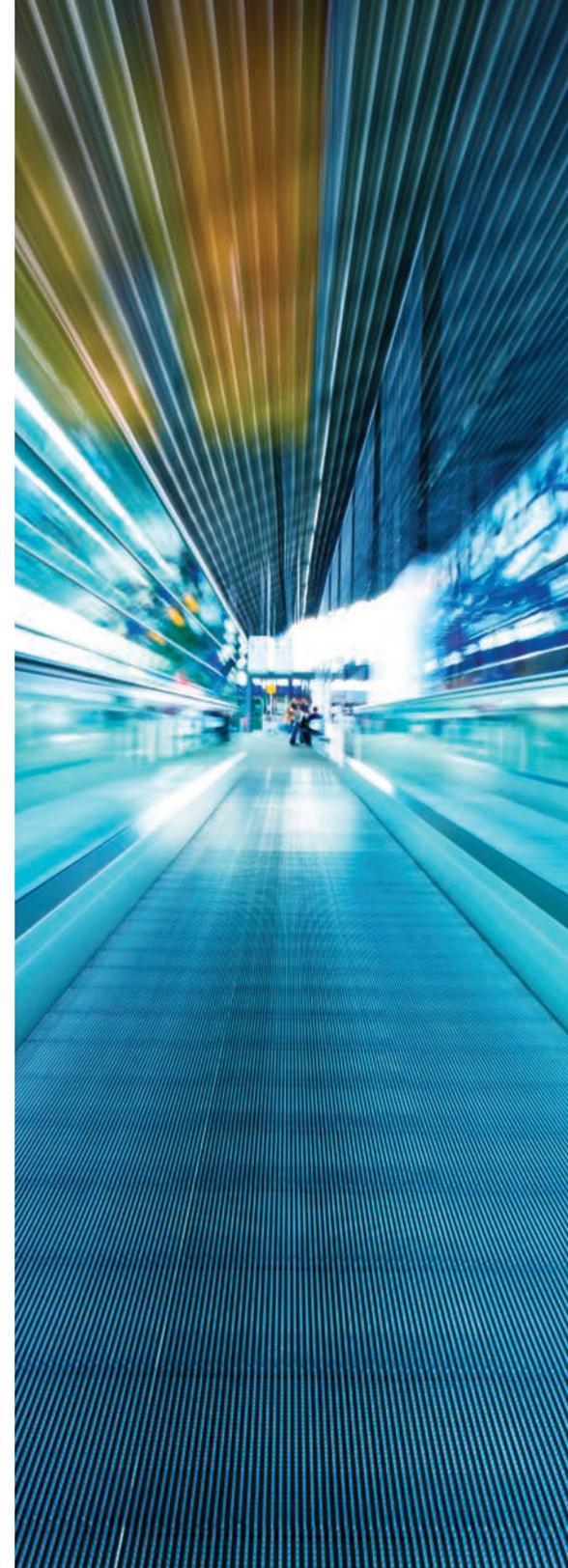
CSH supports technology companies with audit, tax and business advisory services. From tax incentives to operational best practices, we understand how to foster growth and success. We are also well-positioned to serve businesses rolling into strategic alliances, expanding through mergers and acquisitions, moving to the next generation or ending in liquidity events, private or public.

OUR FIRM Founded in 1938, Clark Schaefer Hackett is one of the 60 largest CPA and advisory firms in the U.S. We offer best-in-class technical expertise in audit and assurance, risk management, benefit plan consulting, forensic and litigation support, valuation and transaction services. We combine the insights and ideas of multiple disciplines to provide solutions in a wide range of industries, including manufacturing, construction and real estate, distribution, healthcare, financial services, as well as government entities, higher education institutions and not-for-profit organizations.

INDUSTRY SPECIALIZATION We align resources by industry to better serve the needs of our clientele. Specialization permits us to develop deep knowledge of the issues facing our clients and to anticipate needs based on our understanding of industry trends. We select a team that best fits the needs of the client from our strong bench of firmwide industry specialists.

RELATIONSHIPS MATTER We believe that doing the work and serving the client are not necessarily the same thing. One is about a talent for numbers, the other is about interacting with people. At CSH, relationships matter, and we believe that creating a supportive, helpful, working relationship is perhaps the most valuable talent we can offer.

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CSH AROUND THE TABLE **FOR TECHNOLOGY**



CHAD WILLIAMS, CPA

Shareholder

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Chads' proficiency in complex tax issues makes him a sought-after advisor to privately held companies and their owners. He possesses a strong business advisory background in addition to outstanding tax skills. Chad consults with clients on a variety of tax issues including merger and acquisition activity, entity restructuring and planning, tax strategy and planning and tax accounting method change implementation. Chad keenly understands the tax matters of business owners and other high net worth individuals.



ED WALSH, CPA

Shareholder-in-Charge

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Ed is the Shareholder-in-Charge of the firm's Columbus office. Upon graduating from the University of Notre Dame, Ed joined an international accounting firm. He joined CSH in 1985 and has assisted in the significant growth of the Columbus office. He is a member of the firm's Executive Committee and chairs the firm's Strategic Planning Committee. Ed works with closely held businesses. He has extensive experience with business start-up issues, mergers and acquisitions, as well as auditing and taxation for these clients. He also has significant experience with audits of employee retirement plans.

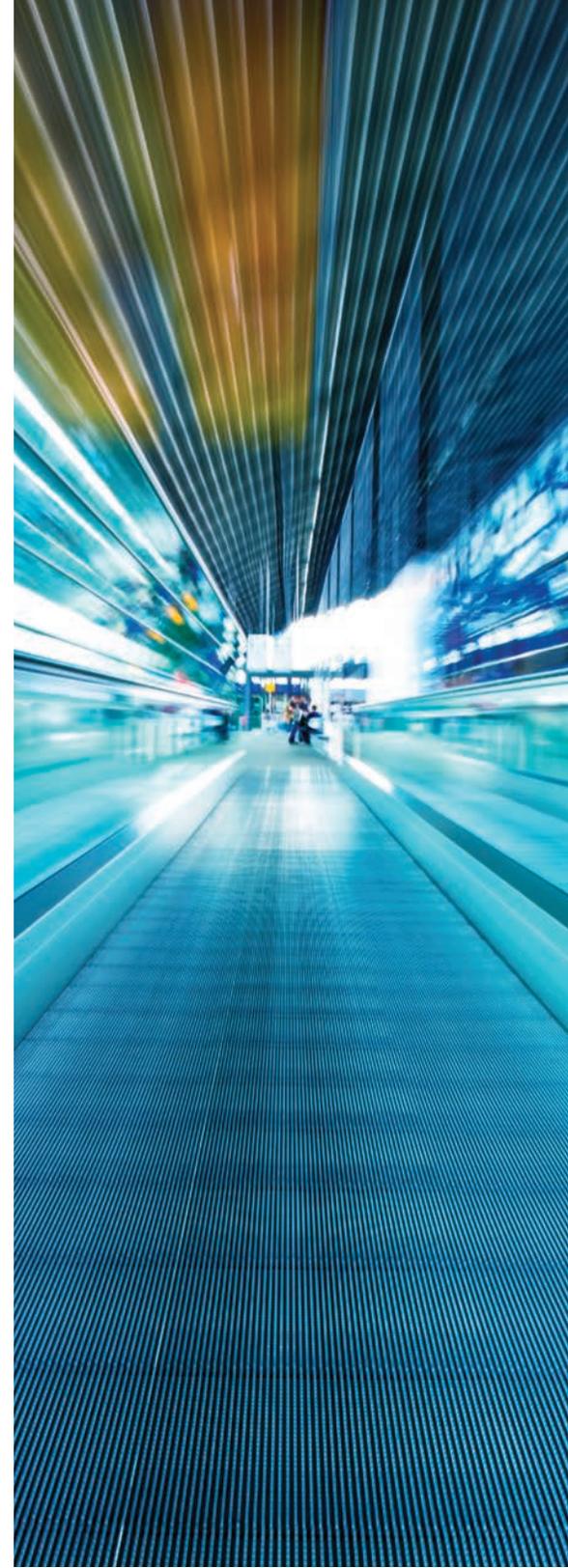


DAN LACEY, CPA, CFE

Shareholder

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Dan specializes in the area of personal, corporate, partnership and fiduciary income taxation. He assists business owners from a cross section of industries in tax and general business planning. Dan's long service to public accounting, as well as his numerous leadership roles within the firm and community, provide for a wealth of knowledge that sets him apart. Dan is experienced in business valuation, which supports his expertise in mergers and acquisitions, business sales, and generational ownership transitions. He is also a certified fraud examiner.





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