

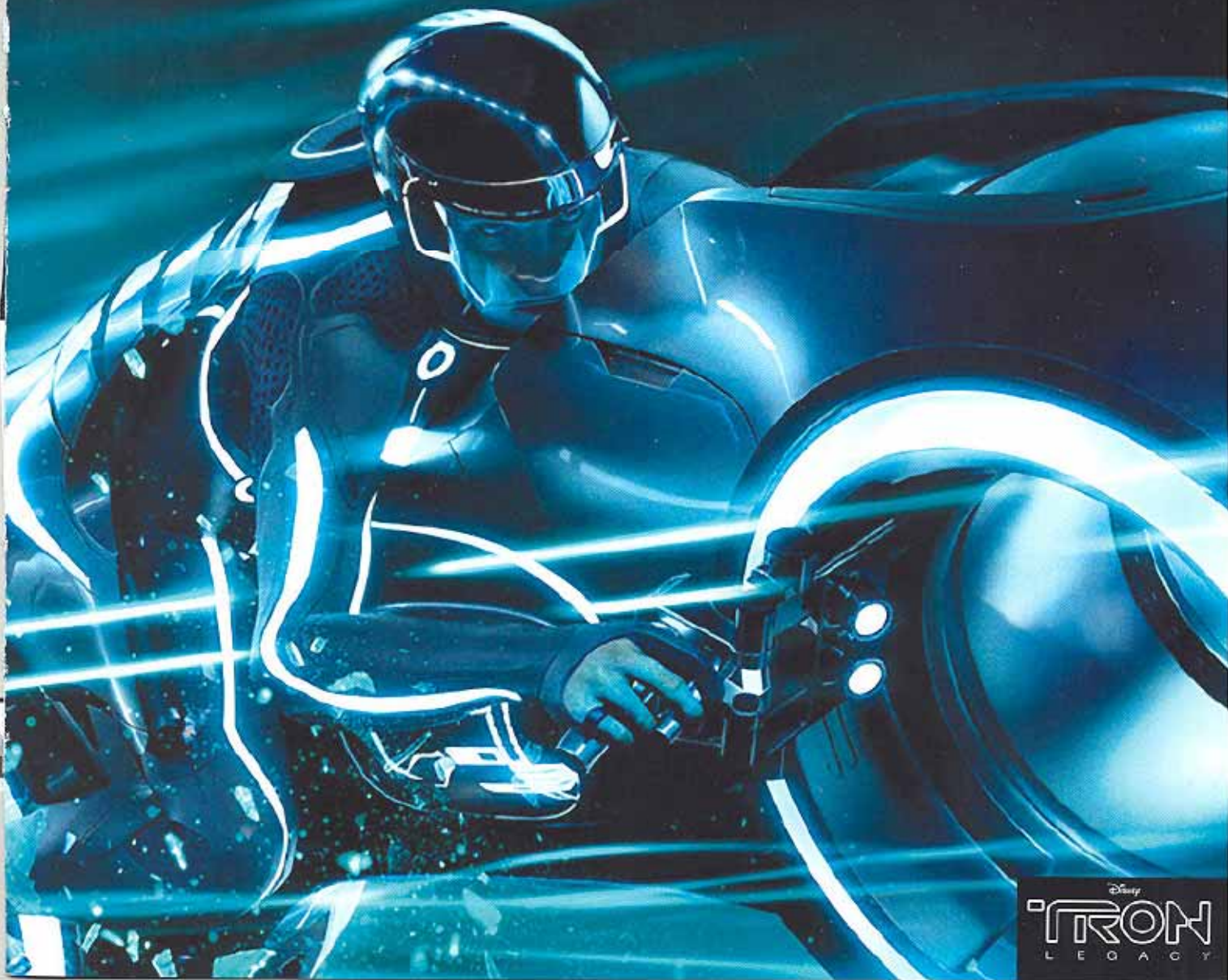
april 2011
review

initiatives

chamber of commerce
of huntsville/madison county

TECHNO·LEGACY

Local Companies Developing Industry-Changing Wireless Technologies



Disney
TRON
LEGACY

Disney
TRON
L E G A C Y



TECHNO-LEGACY

From Wired to Wireless, Another
Technology Evolves in Huntsville

SYNAPSE (())

Huntsville-based Synapse Wireless' SNAP technology controlled and monitored the light suits in the Disney movie *Tron: Legacy*. The SNAP unit was embedded in illuminated circles on the backs of the actors.

Photos courtesy of Synapse Wireless



When the internet was created and first commercialized, it was the catalyst of a technological revolution that has changed the world. Getting computers to "talk" to one another revolutionized the way people accessed information, how much information that was instantly accessible and how people could suddenly communicate globally. That revolution not only changed technology but also changed society. According to officials and entrepreneurs with two Huntsville-based technology companies, this tech-revolution is just getting started.

Synapse Wireless, a local company specializing in wireless technology for monitoring and control applications, has developed technology that can be described as the "internet of things." Their technology allows machines to "talk" to each other the way the internet allowed computers to talk to one another. And according to company officials, this will change technology as we know it regarding everything from home lighting to Hollywood films.

Synapse's technology, SNAP, was possibly the most overlooked actor in the Hollywood blockbuster film *Tron: Legacy*. *Tron*, noted for its stunning visuals, used SNAP to control the lighting of the actors' signature suits.

Synapse's SNAP network operating system is an internet-enabled, instant-on network system designed to cost-effectively run over a wide range of popular microprocessors and microcontrollers easily and affordably. The SNAP technology allows users to focus on applications, such as home lighting controls and countless others, instead of the network. SNAP supported this advantage in *Tron* through the wireless and reprogramming of effects on the fly.

The technology allowed lighting crews to control the lights on the movie's trademark illuminated suits and to keep measurements on how hot the lights were burning to prevent injuries. In the filming of a motion picture and its special effects, the capability to re-shoot scenes without the huge expense of having to set up the shot with each take is a great benefit, company officials said.

This technology, however, is just the beginning of possibilities and potential applications. According to one Synapse official, this barely scratches the surface of what wireless technology will enable companies to do in the near future.

"What computers and the internet did for people, we are doing for machines," said Synapse's Bryan Floyd. "There are

literally billions of instances where these types of communications can take place. Our technology provides intelligence for machines, ways for them to sense and interact with the physical world and connects machines with each other as well as with people and the internet."

Floyd said this type of communication between machines is already happening and companies must get on the bandwagon or face being left behind.

"How are you going to compete in just a few years if your technology can't communicate? We have a leg up on the competition because we know how to connect machines with each other and with the internet."

Synapse has limitless applications for its products.

"Healthcare workers use our SNAP technology in a badge to track whether they washed their hands. It is estimated that 1.7 million people at a cost of more than \$30 billion will contract healthcare associated infections during a hospital stay," he said. "Helping to eliminate such unnecessary suffering and cost means so much to us - well beyond business goals."

Other users of the technology include the Dallas-Fort Worth Airport. Officials with the airport realized that baggage handlers were vulnerable to bad weather because they could not always get news of danger. And it was too expensive to break up the concrete and run wires to get messages to the handlers, so the airport adopted Synapse's wireless SNAP technology, Floyd said.

Synapse has its roots, like many local firms, in the many technology companies that have called Huntsville home for years. Many of Synapse's first employees came from Intergraph, Adtran and others.

Floyd said that wireless technology is still evolving and being improved by many companies due to its complexity.

"The complexity in working with net-

works is still a black art to most people. Sending packets of data wirelessly and then being able to reliably unpack it and actually use it in an application is beyond the reach of most companies. But with Synapse, they get a software environment, called Portal, that makes it easy for them to create applications without having to understand the inner workings of a network.

"Engineering involves decisions about what to do and what not to do. So picking Synapse means that the act of intelligent machine communication is taken out of the 'to do' equation and our customers can focus on their own products. There is no other technology like it."

Floyd said he sees the industry on the verge of explosive growth. "The industry's potential is so great. I'm talking like Microsoft and Google. In five years, you will see a company rise to the top that you've never heard of before. I don't see a limit."

As for Synapse, Floyd said he is equally enthusiastic about the company's future. The company recently joined with Future Electronics, a leading distributor of semiconductor and electro-mechanical components in 42 countries throughout the Americas, Europe and Asia.

Floyd said he believes that Huntsville is a hotspot for companies like Synapse and other high technology firms.

"There is a culture of creative engineers here and a constantly growing list of new companies. I heard a news story in California about the demise of Silicon Valley and the rise of Huntsville as one of the places to be for ground-breaking technical developments. Even during the recession Huntsville seems to have a resiliency unlike any other engineering community."

Another quickly emerging company in the vast technology scene in Huntsville is

- continued on page 24

804 Beltline Road, SW
Decatur, AL 35601
256.351.9525



Allegra can help you jump start your marketing with your **FREE Jump Drive**



Getting a jump on marketing could be as simple as calling Allegra for your next marketing or print project. From optimizing the impact of a single printed piece to creating a complete marketing plan, we can show you new ways to reach your target audiences, increase your brand awareness & grow your organization. (We do the basics like business cards and letterhead, too!)

Receive a **FREE 2GB Jump Drive** for any new marketing or print project of \$100 or more.
Contact us for details at 256.351.9525.

DIRECT MAIL | COPYWRITING | QUALITY FULL-COLOR PRINTING | LIST SOURCING & MANAGEMENT | MARKETING PLANNING | MAILING SERVICES | SIGNS & BANNERS | WEBSITE DESIGN | GRAPHIC DESIGN | EMAIL MARKETING | PROMOTIONAL PRODUCTS

INFOPRO
CORPORATION

www.ipc-us.com

WORLD LEADERSHIP IN MODELING AND SIMULATION

- IVC Simulation Training Systems
- Geospatial Programs
- Warfighter Exercise Support
- Systems Engineering and Analysis
- Verification Validation & Accreditation
- Test & Evaluation
- M&S Training
- Simulation Products
- Microsystems/Nanotechnology
- Hardware-In-The-Loop



256.922.0802

AEGIS
TECHNOLOGIES

www.aegistg.com



THE
ANSWER
IS COMING
SOON

TECHNO•LEGACY,
continued from page 23 -

Halo Monitoring, which is using wireless technology in innovative ways to help seniors and their families live more safely in their homes.

Chris A. Otto co-founded Halo Monitoring with Chirag Patel after examining the level of products available for his mother, who was providing care for his grandmother. Halo's product, the myHalo clip and myHalo chest strap is the first of its kind to have advanced fall detection, or the ability to sense a fall and call for help without the user ever having to press a button. These advancements aim to monitor in the most unobtrusive manner possible, and to employ intelligent and proactive solutions.

Halo's fall detection technology can call emergency services instantly and can also send a text message, email or telephone call to caregivers according to their preference. If the fall is serious, an emergency team is sent the location of the fall site so that they can begin immediate care. No further action is needed, unlike other alert systems.

Prompt care after a fall is critical. A recent study by the National Institute of Health revealed that 67 percent of the elderly who fall are incapacitated to the point of being unable to seek assistance independently. In other words - they will not be able to press the panic button to receive the help they need. Further studies show that seniors who remain on the floor for longer than 72 hours will not survive. However, if help can be attained within one hour, the seniors are nearly six times more likely to survive and return to their homes.

The federal Centers for Disease Control and Prevention (CDC) reports that one out of three senior adults fall each year, and in 2008, more than 2.1 million seniors were injured in falls.

"Staying active, regular review of all medications, and making your home safer are all proven ways to reduce the risk of falling," said Otto. "However, it's important that families understand that despite all precautions, accidents still happen. Even minor falls can turn deadly if a fallen loved one is left alone for extended periods. It is critical that help arrive within the first four hours of a fall."

A chest strap containing sensors is able to measure the user's spatial orientation and determine if they fell. This is an important attribute considering the possibility of a fall resulting in unconsciousness. The sensors use a proprietary algorithm based upon years of study and observation.

The sensors in the strap just don't detect

if someone has fallen, the sensors are capable of measuring key vital signs such as heart rate and temperature – a feature comparable technologies lack. Knowing the vital signs of a senior in advance allows faster and more accurate response when responders arrive on the scene. The device has proven so popular that the company has more than a dozen workers in Huntsville, and a network of more than 140 dealers nationally. “We are literally growing every day,” Otto said.

As the population grows older, it only seems logical that technology like this that offers safety and independence at the same time will catch on.

“Baby boomers are responsible for the care of their aging parents and their own children, an overwhelming task most people aren’t prepared for,” said Otto. “Families want to respect an elderly loved one’s wishes to live at their own home where it’s familiar and comfortable, but someone needs to be available just in case. Monitoring systems provide additional security and peace of mind to these families.”

A new study from Humana shows how so-called “sandwich boomers” – those caring for their own children and their parents – are



▲ The Halo transmitter is small and worn comfortably around the chest. The monitor is able to determine if a fall happened and track vital signs — both of which are crucial data needed to save a life.

feeling the pressure of this new burden. Concerns over care have resulted in people missing work and forgoing much needed vacation time.

For family members not in the same area – which includes 5-7 million people, according to AARP – the technology is still useful and comforting.

“Traditional medical alarms are limited in their ability to cater to long-distance caregivers and their loved ones. If a senior falls, they alone must signal for help. However, studies have shown us that in 4 out of 5 cases, seniors are unable to push a panic button after a fall has occurred,” according to Otto. “myHalo no-

tifies long-distance caregivers by text message or email of events that require their attention. Additionally, concerned family members can use the Internet to confirm their loved ones are OK. When you can’t be there physically, this is the next best thing. Many people don’t realize that these advanced features are available today with innovative medical alarms like myHalo, at the same price as traditional medical alarms.”

From saving lives to creating stunning visuals, Huntsville’s wireless companies are changing the way people live and machines operate.


• Harrison Diamond & Ethan Hadley




AMAZING THINGS HAPPEN WHEN WE WORK TOGETHER

Stride by stride, the relationships we forge never miss a beat. Just like Fred and Ginger, First Commercial Bank partners with you to build trust as we glide together towards growing your business. As a recent national winner of both the Greenwich Associates Excellence in Small Business Banking and Excellence in Middle Market Banking, we appreciate the opportunity to put our relationship manager performance and comprehensive suite of products to work for you. If you’re looking for a new business partner, now’s the time to take the first step.

WWW.FCB-HSV.COM | 258-551-3300

 First Commercial Bank

a division of **SYNOVUS BANK**
MEMBER FDIC

 First Commercial Bank is a division of Synovus Bank. Synovus Bank, Member FDIC, is chartered in the state of Georgia and operates under multiple trade names across the Southeast. Divisions of Synovus Bank are not separately FDIC-insured banks. The FDIC coverage extended to deposit customers is that of one insured bank.