

# Pittsburgh Companies Changing the World

by Abby Mendelson

Harold Miller likes to talk about it – and who can blame him? After all, the Future Strategies president, former Allegheny Conference on Community Development president, and former Carnegie Mellon Heinz School associate dean, thinks he has a good -- no, great -- story to tell. It's all about money. And Pittsburgh. And remaking the world.

As part of Pittsburgh's regional economic development strategy, startup companies play off existing strengths -- medicine, engineering, high-tech – bolstering the economy, growing local identity, improving the world. Just as Pittsburgh did 150 years ago, evolving from frontier trading post into global steelmaker, so will emerging technologies transform the region – and change the world. No skyscrapers this time, no smokestacks, just spin-offs. First, three employees. Then 30. Then 300 – and counting.

"Most large employers in the region today -- Alcoa, Allegheny Technologies, PPG, US Steel -- started as small entrepreneurial companies with innovative products," Miller says. "In the future, large employers will arise from the same roots -- small entrepreneurial companies starting today, commercializing innovative technologies. And just as those Pittsburgh companies changed the world by developing and commercializing revolutionary products and processes, the revolutionary technologies being developed in our university and corporate labs today, and the small startup companies that are working to commercialize them, will do the same – will enable Pittsburgh to continue changing the world, and to reap similar economic benefits."

As proof, Miller points to a trio of leaders:

Aethon, headquartered in the burgeoning Airport area, is the proud papa of TUG, a hospital courier robot. Delivering and tracking goods and supplies, TUG requires no infrastructure investment, is simple to install, and can be applied in a variety of applications. Currently serving some three dozen hospitals, Pittsburgh to Orlando to DC, TUG and his cousin HOMER handle such lifesaving items as meds, lab samples, and documentation.

"Using transformational technology -- something that never existed before, something that solves a real world problem – we began in health care," offers Aldo Zini, Aethon president and CEO, patent holder, and Pitt and CMU alum, "because hospitals have a huge problem delivering and recovering equipment, supplies, meals, name it. Increasingly, it's hard to find labor to do those jobs. Hospitals don't want nurses and clinicians to do them. Now TUG does it for them – and can do it in retail, warehousing, anywhere things need to be moved, delivered, sent and tracked."



*Aldo Zini explaining the TUG robot*

Zini's as bullish on Pittsburgh as he is on his product. "There's a great base of talent here," he says, "especially in healthcare, engineering, robotics, and skilled manufacturing, including a rich tradition in

machine shops that you don't find in other parts of the country. Four years ago we began with two employees. With that talent base we've been able to grow to 85 -- engineers, technicians, software writers, sales people."

In nearby Harmarville, Andrew Hannah heads Plextronics, hailed by the Wall Street Journal as a technological innovator. Blazing a global trail in tiny, printable transistors (RFID tags) for consumer packaging, as well as printable solar cells to power portable electronic devices, their stakes: a \$50 billion market by 2015.

Using organic lighting capable of being placed on virtually any surface, walls to boxes to fabrics, large-volume, low-cost solar cells that make it economically viable and OLED displays that will challenge traditional LCD and plasma for market leadership – in part because it can be printed like a newspaper rather than fabricated in a clean-room facility. And it's happening here.

"Plextronics is committed to Pittsburgh," co-founder, president, and CEO Hannah says, and for good reason. "With Carnegie Mellon, our own birth place, and Innovation Works (for two decades the region's major high-tech seed-fund supporter), which helped us with funding and provided important services and support, and a very collaborative environment, with Alcoa, Bayer, PPG, and US Steel headquartered here, Pittsburgh is a great place to start a business, especially in advanced materials.

"It's also a great place to find talent. As a highly livable city, Pittsburgh's also attractive to candidates from other areas of the country. That's important to us, because while we currently employ 35, we hope to create thousands of jobs here."

With 350,000 American dialysis patients, 1.3 million worldwide, the number growing nearly 8% annually, a Pittsburgh-based firm provides the world's most convenient, flexible treatment for a wide range of environments. Located in Warrendale, Renal Solutions was deliberately created in Pittsburgh. Indeed, CEO Peter DeComo selected Pittsburgh because he not only loved the quality of life, but also knew he could find both the financial backing and skilled personnel necessary to build an advanced medical devices company. "Pittsburgh is home," DeComo says, "and our location has a great deal to do with our success. I was pleased to be able to leverage my network here and get this company off the ground. The funding support and workforce readiness has been invaluable. Pittsburgh's status as a world healthcare leader made it a great fit for our innovative hemodialysis system."

Those three are hardly alone. Benefiting from the regional labor force, high-tech advances, and venture capital are others, including:

Southside's Cohera Medical, which began as a Pitt research project between the engineering and dental schools and went on to develop a biodegradable adhesive that promotes healing and minimizes complications. The idea was as brilliant as it was simple: because surgical complications can include havoc-wreaking scar tissue, bleeding, drainage, and extended healing, the Cohera team developed a new adhesive that promotes healing, reduces scarring and adhesions, and minimizes bleeding and drain infections. Made from a non-toxic polymer which degrades in the body, the adhesive is currently in animal testing.

In the eastern suburbs, Respironics has grown into a leading provider of innovative solutions for the global sleep and respiratory markets. With a core expertise in treating sleep apnea, plus undiagnosed and untreated sleep and sleep-related disorders, including insomnia and chronic snoring, Respironics' 100-odd products include invasive and noninvasive ventilators, patient masks, and technologies to help treat, monitor, and manage patients with chronic obstructive pulmonary disease, asthma,

pulmonary arterial hypertension, and cystic fibrosis, among others. Founded in 1976, in 1990 Forbes named Respiroics one of America's best small companies.

Finally, using a proprietary 3D mobile perception technology, Lawrenceville's Seegrid creates warehouse-based automated material handling. As with Cohera, an Innovation Works grant helped the start-up robotics company develop both its business model and commercial product.

It all adds up to – success! "Innovative technologies -- robotics, medical devices, advanced materials - have the potential to save lives, save money, and improve the quality of people's lives," Harold Miller says. "The companies that successfully bring those technologies to market will create the jobs of the future. Because Pittsburgh is a leading center of research in all of these areas, it has the potential to become a leading center of job growth as well.

"Innovation and entrepreneurship drove the Pittsburgh economy in the last century," he adds. "Innovative entrepreneurial companies will drive our economy in the future."