

## Cleveland's biomedical industry growing by billions

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CLEVELAND, Ohio -- The biomedical industry is a world where new medical practices are imagined and the tools to perform them are designed and crafted.

It's a business at the crossroads of hospital research and manufacturing might.

Increasingly, it's Cleveland's sweet spot.

The region's biomedical industry grew by nearly 60 percent in the past dozen years, creating thousands of jobs and making it one of the few growth industries in Northeast Ohio.

Recently, the sector surpassed pre-recession revenue levels to become a \$5.6 billion industry, up from \$3.5 billion in 2000, according to analysis by the regional business attraction agency Team NEO.

Biomedical companies now employ about 33,000 people in the 18-county region, Team NEO found in a study being released Sunday. Meanwhile, new startups continue to emerge and attract investment.

Just last week, a year old Cleveland company called **Disease Diagnostic Group** won \$100,000 in a national business plan competition to develop its idea for detecting malaria fast and inexpensively.

Case Western Reserve University graduate John Lewandowski and Case malaria researcher Brian Grimberg worked out the shape of their handheld device in CWRU's [think]box fabrication lab and raised \$250,000 for field trials in India and Peru.

Where the young company will actually make its hardware remains to be seen, but there's a good chance it will be Cleveland, a city where venture capitalists are increasingly betting on local expertise.

Greater Cleveland healthcare companies attracted \$201 million in venture funding in 2013, tops in Ohio and second among all Midwest cities, behind Minneapolis, according to a **survey** by the business development agency BioEnterprise.



*Gary Zamler, the CEO of Simbionix, says small innovative companies like his are key to job creation in Cleveland. Thomas Ondrey/ The Plain Dealer*

Team NEO sees a legacy of medical expertise converging with manufacturing know-how to power a new industry.

"We've long known how to make things here," said Jacob Duritsky, the research director at Team NEO. "We do have one of the greatest healthcare sectors in the world."

Meanwhile, regional collaborations resulted in groups such as BioEnterprise and resource-rich neighborhoods like the Health Tech Corridor.

The result is a region where an idea can go from the lab to finished product -- "from bench to bedside," as inventors say -- without leaving the area.

"That's our competitive advantage," said Tom Waltermire, the chief executive of Team NEO.

### **Small rosters but a growing league**

The biomedical industry, defined by some as applying scientific advances to improve human health, is not a major employer. It remains a young industry dominated by small companies. Overall, they represent a little less than 3 percent of the regional economy.

Still, 3 percent of a \$200 billion economy is impressive, Waltermire said. It is a "human capital intensive" industry that attracts talent from around the world, he notes, and it is starting to mature.

While medical science companies such as Steris and Philips Healthcare are well known in the region, economic development officials are also excited about several lesser-known companies gaining international reputations; **companies like Symbionix.**

A maker of surgery simulators for doctor training, the Israeli startup moved its headquarters to Cleveland in 2002 to tap the research and training expertise of the Cleveland Clinic.

In 2004, Symbionix began moving its manufacturing to Cleveland, as well. Today, most of its simulators, which sell for between \$50,000 and \$300,000, are made by Astro Manufacturing & Design, an advanced manufacturer in Eastlake run by the son of the founder.

Meanwhile, at Symbionix offices in the historic Baker Electric Building in Cleveland's Health Tech Corridor, chief executive Gary Zamler orchestrates a global operation.

Symbionix now has 2,200 simulators in 70 nations, he said. Big customers include the Veterans Administration, Ohio State University and China, where more than half the medical simulators in action were made in Cleveland, Zamler says.

Employment remains modest. About 130 people work for Symbionix worldwide, 30 in Cleveland. But the local impact includes annual manufacturing orders worth \$2 million, Zamler notes, and the company is expanding its headquarter offices again to keep up with new markets.

"Just this morning we had a nice order from Kazakhstan," he remarked.

Zamler, a Detroit native, said he believes innovative companies such as his are key to bringing the Midwest economy back to global dominance.

"We built this company into the true global leader in medical simulation," he said. "Small companies like us are really going to fuel job creation in America."