

# The New York Times

February 14, 2010

## In Detroit, Is There Life After the Big 3?

By PETE ENGARDIO

DETROIT

CRUISE the blighted streets that shoot off in either direction from 8 Mile Road, and the scars of the automotive crisis abound. “For sale” signs adorn the front of long-shuttered metal, paint and tool-and-die shops. And at factories still in business, the small number of cars in the parking lots testify that the shops are working below capacity.

But pull into the bustling headquarters of [W Industries](#), a compound of imposing black structures at 8 Mile and Hoover Street, and you’ll encounter a more hopeful vision of Detroit’s future. Once an exclusive supplier to the auto industry, this machine tool and parts company is rolling in new business.

In one section of the cavernous shop floor, machinists use powerful lasers to slice thick steel plates. They’re making parts for Humvees and Stryker combat vehicles destined for Afghanistan and Iraq.

Elsewhere, they are assembling a 60,000-pound apparatus for testing the Orion space module by simulating the violent vibrations of liftoff. Other workers are finishing a steel mold that will be used to make 70-foot-long roof sections of [Airbus](#) A350 passenger jets.

Dozens of Michigan manufacturers like W Industries are discovering there is indeed life beyond the auto industry. Over the last two years, multinationals and start-ups alike have been coming to the state to build, buy or design a hodgepodge of products, whether aircraft parts, solar cells, or batteries for [electric cars](#).

In September, for instance, [NTR](#), a [solar energy](#) company from Ireland, awarded contracts to two Detroit-area auto suppliers, including the race-

car engine developer [McLaren Performance Technologies](#), to make components for thousands of SunCatcher solar dishes.

“It should be no surprise we went to Detroit,” says Jim Barry, NTR’s chief executive. “The standard of manufacturing in the automotive industry is extraordinarily high, and that is the only place you can find such a concentration of skills.”

Of course, nobody expects Michigan to regain anytime soon all of the estimated 216,000 auto-related jobs lost in the past decade. Most of the new projects create 50 to 100 jobs at a time, while auto plant closures have shed tens of thousands.

“You could bring a whole new industry in here, and it may replace one auto plant,” says David E. Cole, chairman of the [Center for Automotive Research](#) in Ann Arbor.

THE economic impact of the new industries is also hard to gauge: Michigan has few statistics on revenue from industries like [clean technology](#) and aerospace. Much of the new work, moreover, is limited to machining and developing prototypes. Mass production will most likely head elsewhere to save costs or to be closer to end customers. In short, the full payoff of the investments outside the auto industry is unlikely to be felt for several more years.

“What we really are talking about is R&D, pilot projects and early-stage production,” says Peter Adriaens, a [University of Michigan](#) entrepreneurship professor tracking the trend. “There is virtually nothing we can do to keep large-scale production here.”

Still, Mr. Cole and Mr. Adriaens say, the opportunities for auto suppliers are huge and could leave the state with a healthier, more diverse industrial base.

For example, virtually all of the \$50 million in engineering projects at the Detroit campus of Ricardo Inc., a British engineering services firm, are for products like remotely piloted military aircraft, construction equipment and [lithium](#)-ion batteries. And Global Wind Systems, a developer of [wind farms](#) that is based in the Detroit suburb of Novi, says it is working with 18

local suppliers to design next-generation turbines to be assembled nearby in 2012.

[General Electric](#), meanwhile, is investing \$100 million in a 1,000-worker research and manufacturing facility for wind turbines outside Detroit, and Aernnova, a Spanish company that is a supplier to [Boeing](#), Airbus and [Bombardier](#), is planning an engineering center in Ann Arbor that will eventually employ 600. New plants to make lithium-ion batteries are in the pipeline from A123, [Johnson Controls](#) and LG Chemical.

“There is a lot of business out there that is really suited to Detroit’s automotive skills,” says Edward Walker, the chief executive of W Industries, a privately held company.

Among all the projects, the biggest is in Wixom, Mich., just northwest of Detroit. There, a mothballed [Ford](#) plant that had turned out millions of Thunderbirds, Town Cars and GTs is getting a \$1.5 billion facelift. Two investors — Extreme Power of Austin, Tex., and Clairvoyant Energy of Santa Barbara, Calif. — plan to hire 4,000 workers by late 2011 to make solar panels and battery systems for utilities.

“As the alternative-energy space builds out, we expect these plants will create a lot of opportunities for Michigan suppliers,” says Greg Main, the chief executive of the [Michigan Economic Development Corporation](#), the state’s investment promotion agency. Mr. Main estimates that at least 100 auto suppliers already have secured contracts in other industries and that at least 250 have bid for work.

Federal and state tax credits, loan guarantees and grants certainly help stimulate investment. But the main allure of the Detroit area is its ability to quickly turn designs into workable products that can be economically mass-produced. The region remains the country’s premier precision manufacturing base, with 2,500 auto suppliers and tens of thousands of highly skilled, underemployed mechanical engineers, machinists and factory managers.

“We have the best manufacturing resources on the planet here in Michigan,” says Chris Long, the founder and chief executive of Global Wind Systems. “We just need to get aligned.”

IN 1981, W Industries was founded by Robert Walker, Edward's father, to make wooden crates used to ship car windshields and windows. It eventually expanded into a wide range of machine tools and metal parts for car frames and bodies.

The younger Mr. Walker, a 42-year-old with a fondness for wearing black, started working on the shop floor as a teenager and took the helm in 1993. To give the company a distinctive look, he adopted a bold red "W" logo and had all the buildings redone in red and black.

The only way W Industries could grow, Mr. Walker soon concluded, was to diversify. He started with military contracts. By law, most of the work must be done on American soil. And by manufacturing within Detroit's city limits, W Industries benefits from federal policies requiring that a certain portion of military contracts be given to companies in depressed areas.

Another lure is abundant and cheap industrial space. Mr. Walker says he spent around \$20 a square foot to buy and upgrade factories from bankrupt auto suppliers, about one-fifth of the cost of new buildings.

Since landing its first military contract in 2004, the company has secured jobs to make hundreds of heavy steel parts for the frames, bodies and gun mounts of vehicles like the Stryker and the mine-resistant Cougar, both made by [General Dynamics](#). Demand for such vehicles surged as the military sought to replace Humvees, which proved vulnerable to roadside bombs.

Such work "requires a different mind-set and an entirely different way of operating your business," Mr. Walker says.

Rather than cranking out high volumes of parts for years, jobs come in small batches and are highly customized. Each month, for example, W Industries builds a dozen 25,000-pound frames for rough-terrain military vehicles that the Kalmar Corporation, based in San Antonio, builds for the Army.

To win such business, W Industries has spent \$50 million on modern machinery since 2006. The mold for the Airbus sections, which it is building for Spirit AeroSystems of Kansas, is being made with one of the world's largest computer-controlled machine tools. It moves along a 200-

foot-long rail shaving steel to create a super-polished surface. Spirit selected W Industries largely because it offered “an attractive combination of fabrication and expertise,” says Ken Evans, a Spirit spokesman.

W Industries also got the Orion simulator project in part because it was one of the few companies in the United States with the right equipment. The Orion space program aims to send human explorers to the moon by 2020 and then to Mars and beyond. But [NASA](#) hasn't built a space capsule since the [Apollo program](#) ended in 1975.

Five years ago, W Industries had \$15 million in annual sales. This year, it expects at least \$150 million, two-thirds of it from military and aerospace contractors. It has bought three old factories in the area and is looking for more, and it plans to double its work force to 500 by 2011.

[Dowding Industries](#), a family-owned company in Eaton Rapids, is also wagering its future on diversification. It was founded in 1965 as a tool-and-die shop for Oldsmobile and later expanded into metal auto parts. The company branched out into tractor and rail car parts in the 1990s, as the Big Three pinched costs to compete with overseas rivals and “started getting real brutal” on suppliers, says Jeff Metts, Dowding's president.

He said that after Dowding had invested in new machine tools and perfected a part, the work was often shifted to China six months later. “There seemed to be a real effort to remove our profit,” Mr. Metts recalls.

In 2006, he attended a wind-power trade show in Los Angeles. “We were really shocked at how big this industry was becoming,” he says. That year, Dowding won a \$5 million contract from Clipper Turbine Works of Cedar Rapids, Iowa. Other wind customers followed.

After the recent recession, in which it laid off 130 of its 280 workers, Dowding made a bigger bet on wind, forming a venture with MAG Industrial Automation Systems in Sterling Heights to develop tools for turbine components.

MAG also makes machines used to fabricate carbon-composite airframes for planes like the [Boeing 787 Dreamliner](#). In October, the venture will introduce a system that Mr. Metts says can make better-performing wind turbine hubs in one-fifth the time of current methods.

The next goal is a machine for carbon-composite blades that, he says, will be 30 percent lighter than fiberglass blades and last 20 years or longer. Mr. Metts says Dowding has commitments from several turbine makers, and he sees opportunities to use similar machines and technologies for bridges, expressways and ships — for which production methods and materials haven't changed much in decades.

“This will be as big as the shift from metal to plastics,” Mr. Metts says.

The need to turn prototypes into real products is what lured NTR to the Detroit area. The company, based in Dublin, is installing the first 60 of its SunCatcher dishes, which cost \$50,000 to \$60,000 each, in Phoenix. If all of its solar-plant deals with California and Texas utilities are completed, it expects to sell 65,000 of them over the next two years.

In 2008, NTR's manufacturing arm, Stirling Energy Systems, hired Tower Automotive in Novi to develop modules with mirrors that will reflect the sun's energy. It also enlisted McLaren in Livonia to help design and build the motorized units that will convert concentrated sunlight into electricity. Founded in 1969 by Bruce McLaren, the New Zealand-born auto racer, and bought in 2003 by Linamar of Canada, the firm is best known for developing turbocharged engines for race cars.

Five years ago, all of McLaren's business was with carmakers. Now, nearly a third is in developing motorized devices for the solar and wind industries. McLaren's engineering team redesigned the SunCatcher engine and each of its 100 parts to make them more efficient, less expensive and easier to mass-produce.

“We put everything on a wall,” recalls Phil Guys, McLaren's president. “We got 500 suggestions from engineers.”

McLaren has shipped its first batch of power-conversion units to Stirling and is developing new prototypes.

A BIG question is whether the new work will sustain Detroit's manufacturing ecosystem if auto assembly keeps migrating elsewhere. As suppliers close, more managers and engineers could move away.

To illustrate how difficult that talent would be to replace, Bud Kimmel, vice president for business development at W Industries, points out Jason Sobieck. A 30-year-old machining whiz sporting a green tattoo, gray T-shirt and jeans, Mr. Sobieck manages the Spirit and Orion projects.

“Jason is like an artist,” Mr. Kimmel says. “We built our whole program around him.”

Mr. Sobieck began work at 17 at a small Detroit welding shop. He then worked for tooling companies, where he learned to program automated systems and manage projects. “These skills really aren’t taught in school,” Mr. Sobieck says, dragging on a cigarette. “This is a trade you learn on the shop floor.”

That’s one reason that W Industries wants to snap up as many good machinists and engineers as it can afford.

“If we don’t re-engage the automotive workers soon in major programs,” Mr. Kimmel says, “this set of skills will be lost.”