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Chicago hitches a ride on the 'connected car'

By John Pletz | August 18, 2014

The road to self-driving cars will go through Chicago.

In a West Loop office tower, Nokia Corp. has 300 people working on technology that will help cars talk to each other, as well as to traffic signs, smartphones and other devices.

In Vernon Hills, more than 50 engineers are working on connecting vehicle entertainment and navigation systems to phones, tablets and the cloud at a new Harman International Industries Inc. research center.

In Mount Prospect, engineers at Littelfuse Inc.'s R&D center are working on developing sensors used in vehicles.

Elsewhere in the Loop, startup NuCurrent Inc. is developing a wireless charging system for phones and other devices to be used in automobiles.

All of these companies draw on Chicago's historic strengths in electronics design and manufacturing, wireless communications and mapping that position the city well for a key role in the development of the connected car. Such vehicles are one of the earliest and largest examples of the next wave of innovation, dubbed the “Internet of Things,” or the idea that nearly all people and products soon will be connected by technology, transforming how we make, move and buy goods and services.

The surge of activity in Chicago is part of a broader car-industry trend, says Dominique Bonte, a Brussels-based analyst at ABI Research. “The center of automotive technology is shifting from Detroit,” he says.

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Nokia's Connected Driving unit has 300 people, including 160 hired in the past two years, drawing talent from Alcatel-Lucent to Fermilab, from the University of Chicago to the University of Illinois at Urbana-Champaign.

It has 60 more jobs to fill, says Ogi Redzic, a vice president who oversees the unit, which is part of Nokia's Here division that includes former Chicago-based mapping company Navteq.

Although fully automated driving is at least a decade away, Mr. Redzic's team has been working on a key component: real-time traffic data. The world's largest mapping company relies on 66 billion probe points worldwide—Internet-connected sensors in vehicles, on highway signs and other infrastructure. That's up from 12 billion at the end of 2012.

“The industry is going through one of the most important changes in its history,” says Mr. Redzic, a former Motorola Inc. engineer, and that is creating opportunities even for old-line components makers.

The number of sensors sold to the auto industry topped 1 billion globally for the first time last year, doubling from 2009 levels. Shipments will grow another 40 percent by 2018, according to IHS Inc., a research firm based in Englewood, Colorado.

“Making vehicles connected is a critical capability,” ABI's Mr. Bonte says. “We've left the era of talking about it, and now we're starting to see implementation. Every carmaker in the U.S. is rolling out their connected-car solution. . . . It's no longer just BMW or (General Motors') OnStar. It's a must-have.”

GM and Honda, meanwhile, are working on technology that would allow smartphones to connect with vehicles to warn of pedestrians.

Companies such as Nokia, Harman and Littelfuse are angling to provide the technology platforms that automakers will rely upon to collect, process and share the massive amounts of data transmitted to and from vehicles. Insurers such as Allstate Corp. in Northbrook and State Farm Insurance Cos. in Bloomington are playing a role, too, looking to make use of all that data to refine how they do business.

And manufacturers such as Littelfuse are taking the opportunity to redefine themselves.

“Until 10 years ago, we only made fuses,” says Gordon Hunter, CEO of Chicago-based Littlefuse, which was founded in 1927.

Two years ago, it bought Accel AB, a Swedish manufacturer of sensors used in cars and other applications. Sensors now account for more than $100 million a year in sales.

“Our automotive technology group is based in Chicago,” Mr. Hunter says. “We think it's a pretty good location. We considered several years ago building up talent near Detroit, but we wanted to be in Chicago.”

Navigation is Chicago's strength, says Egil Juliussen, an Arlington Heights-based analyst at research firm HIS Inc. “Mapping is the only segment where Chicago will have a primary role,” he says. “In other areas, Chicago will contribute but not in a major way.”

Mr. Bonte sees another opportunity.

“The big problem in autonomous driving is, which cities and states will allow it first?” he says. “If Chicago says, 'We're one of the first cities to test and allow autonomous vehicles,' it would put Chicago on the map for autonomous driving. The best way to promote the industry is to provide the legal or regulatory framework.”