

Indianapolis

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In early 1912, two seemingly unrelated events occurred in different parts of the United States that would later become closely interconnected. In January, the American Institute of Electrical Engineers (AIEE), a successful association since 1884, opened a Central Indiana Section centered on Indianapolis. Then, in May, a group of engineers in New York not satisfied with the AIEE's focus on power engineering formed their own association, the Institute of Radio Engineers (IRE). With its focus on the new field of electronics and, ultimately, computing, the IRE was to see the greatest growth in the long term. In 1936 a Central Indiana Section was formed for IRE. The IRE and AIEE sections worked closely together, so there was little friction when the IRE and AIEE merged to form IEEE in 1963.

Today the Central Indiana Section is a large rectangular area covering 150 diagonal miles (250 km) comprising 39 counties. That area includes many fine colleges and universities, several with IEEE student branches. Indiana University in Bloomington has perhaps the greatest name recognition, but from an IEEE perspective, the most important is Purdue University in West Lafayette. As an early land-grant college, Purdue has long focused on engineering and technology. Much important computer work has been done there over the years, and its involvement with IEEE has been strong, especially in recent years. The current dean of engineering is 2007 IEEE President Leah Jamieson.

Thus, this auspicious 100th anniversary marks a good time for the engineer to take a busman's holiday to central Indiana. Interestingly, however, the original focus of engineering activity in the section was not at the universities, but in Indianapolis, and you could do far worse than to visit "the Crossroads of America." Today of course Indianapolis is perhaps best known as a tourist, convention, and sports mecca with a particular focus on motor sports—the 2012 running of the Indianapolis 500 is held in May, and the Brickyard 400 is due in August.

Like Chicago, Indianapolis combined its central transportation location with access to both agricultural and industrial raw materials to become a manufacturing powerhouse over the course of the 19th century. Circumstances led it to become one of the early hubs of the emerging automobile industry in the late 19th century, explaining the focus on automotive sports to this day. Even after that industry became more centralized in Michigan, Indianapolis was a key player in the supply chain. Prestolite Electric, still around today as a global manufacturer of automobile electrical systems

(although now headquartered in Michigan), was founded in Indianapolis in 1911 to produce the first automobile headlights for night driving. As aviation grew, Indianapolis became a major player in that field as well.

It is in aviation where the story of Indianapolis first interests the computer and electronics engineer, so let's take a brief three-stop tour starting on the eastern outskirts of the city at 6000 East 21st Street, just off the juncture of Interstates 70 and 485. Because of its location, resources, and expertise, the US Navy chose this site in 1942 to open the Naval Ordnance Plant Indianapolis to manufacture the famous Norden Bombsight, an important early application of analog computing. NOPI went on to become a major R&D center for US Navy computing and electronics (renamed the Navy Avionics Facility Indianapolis in 1956 and the Naval Air Warfare Center Indianapolis in 1992).

Now take I-70 into downtown. The civilian story of electronics and computing begins in the 1940s when RCA chose Indianapolis as its manufacturing center for a new technology, television. Nothing remains on the ground of that episode, but the current Indiana Convention Center, across from Victory Field and Lucas Oil Stadium, was the site of the RCA Dome (aka the Hoosier Dome), the main sports venue in the city from 1984 to 2007.

The RCA experience increased Indianapolis's role as a center of electronics. One of the local RCA spin-offs was Industrial Development Engineering Associates (IDEA), which developed and manufactured home TV antenna boosters. The young Texas Instrument company was looking for a partner to develop and manufacture the first commercial transistor radio based on its solid-state technology (the first commercial transistorized product had been a hearing aid). After larger companies passed on the idea, TI found IDEA. The resultant Regency TR-1, introduced in 1954, is a landmark in electronics history.

Regency was at 7900 Pendleton Pike, just six miles (10 km) north of NOPI. If the family is along, and patience for your busman's holiday is running thin, however, rather than heading back there, you are in a good spot at the Convention Center. Indianapolis is home to an array of world-class, family-friendly cultural institutions. The most notable are nearby—the Indianapolis Zoo and the Children's Museum of Indianapolis, the largest children's museum in the world. So enjoy!

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