Electrical engineers in demand in Rochester area

Robin L. Flanigan   *12 a.m. EST January 5, 2015*

(Photo: Mike Bradley)

Besides having two parents as engineers, Jennifer Indovina credits *Star Trek* with planting in her a lifelong desire to enter the engineering profession.

"The engineering department in that show always seemed to be able to solve whatever problems they were thrown," said the electrical engineer, CEO and founder of Tenrehte Technologies, which designs and manufactures products that conserve energy and promote energy efficiency in everyday electronic devices. She became fascinated by the idea "that we can build with our hands these tools that enable us to improve our lives, explore the universe, and find out more about who we are, why we're here, what we're meant to do."

Working out of her home in Irondequoit, Indovina now knows that, unlike in the classic science fiction television series, electrical engineers are constantly dealing with a world of tradeoffs. "You need to be very clear and a realist," she explained. "Can you deliver quickly at a reasonable price and actually provide a solution that's beneficial to everyone? This is a field where the world expects what you've given them – until it fails, and then everything kind of becomes chaos."

The New York Department of Labor reports that employment opportunities for electrical engineers in the Finger Lakes region are expected to increase 5 percent between 2010 and 2020, with 40 annual openings.

Indovina, 31, has a bachelor's degree in electrical engineering and a master's degree in business administration from Rochester Institute of Technology. Her start-up tech company makes, among other things, a PICOWatt Smart Plug that allows customers to remotely monitor and control energy use and plugged-in devices.

Aside from communicating with clients, Indovina's daily duties include soldering and desoldering parts of electronic boards, editing software, and using diagnostic tools to probe the company's designs to make sure they're working properly and effectively. Time management is a constant challenge.

"There just doesn't seem to be enough hours in the day for what we do," she said. "We just have to be diligently organized and understand that what we do has a social implication, and that makes it feel less like work and more like a calling."

Flanigan is a freelance writer covering the Rochester area.

Electrical engineers

The job: Electrical engineers design, develop, test, and supervise the manufacturing of electrical equipment, such as electric motors, radar and navigation systems, communications systems, and power generation equipment.

The pay: The median annual pay for electrical and electronics engineers was $89,630 in May 2012.

The prospects: Employment of electrical engineers in the Finger Lakes region is expected to grow by 5 percent between 2010 and 2020, with 40 annual openings.

The preparation: Electrical engineers must have a bachelor's degree. Employers also value practical experience, so participation in cooperative engineering programs, in which students earn academic credit for structured work experience, is valuable as well.

Sources: New York State Department of Labor, U.S. Department of Labor

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