

Who's Who In Energy Conversion In Portland: Area Tech Companies You May Want To Visit

by David G. Morrison, Editor, How2Power.com

Home to a number of high-tech companies, the Portland area has been dubbed the Silicon Forest. So, if you're considering a visit to Portland this September to attend the Energy Conversion Congress & Exposition (ECCE 2018), the opportunity to visit or schedule meetings with representatives of the local companies in the electronics field may provide further incentives to make the trip.

Some of these companies, such as SIMPLIS Technologies and Transim, offer products that are specially intended for use in the development of energy conversion technology (i.e. power electronics and electric machines). Others such as Tektronix and Mentor Graphics, provide products that find general use in the development of electronics but may have some products geared toward energy conversion applications. This list also includes companies such as distributors and contract manufacturers who play a supporting role in the development of a wide range of applications.

This list offers a brief overview of these Portland area tech companies. It begins with Portland's most famous tech company—Intel. Although not focused on energy conversion, Intel's products find application in just about all application areas.

If you know of other Portland area tech companies that could be included in this list, please email me.

Intel

Hillsboro, OR

<https://www.intel.com/content/www/us/en/corporate-responsibility/intel-in-oregon.html>

The biggest name in semiconductors and one of the most famous of all tech companies in the world, Intel has extensive operations in the Portland area. It describes its operations here as follows:

"Intel's Oregon operations cover four campuses west of Portland in Washington County and is Intel's largest concentration of facilities and talent in the world. With a site population of approximately 19,300 at the end of 2016, Intel is Oregon's largest private employer. Since Intel's first campus in Aloha in 1974, Intel has helped position Washington County as the center of Oregon's growing technology industry with a vast network of suppliers and contractors to support operations locally."

SIMPLIS Technologies

Portland, OR

<https://www.simplistechnologies.com/>

The SIMPLIS simulator is well known among power electronics engineers. Its maker, SIMPLIS Technologies describes itself as "the technology leader in simulation software for the power electronics industry". Furthermore it describes SIMPLIS as "the leading simulation engine for switched mode power supply design" noting it "has been rapidly adopted by leading power supply, computing and telecommunication equipment manufacturers in recent years. It has become the standard for power supply system simulation and new product definition analysis."

Transim

433 NW 4th Avenue, Suite 200

Portland, OR 97209

503-450-1355

<https://www.transim.com/#/Home>

This company is known in the semiconductor field for its development of custom, web-based product evaluation and design tools that companies use to support their customers. You may have heard of the company's WebSim online simulation technology, which according to the vendor "allows instant design verification and what-if analyses with online simulation." Describing its services more generally Transim says, "We are the global leader in delivering cloud based engineering solutions. We offer both fully customized solutions as well as readymade, immediate use products tailored to fit your needs. Our team comprises of industry experts in electrical engineering, web development, web infrastructure, UI/UX, and marketing. By combining expertise and security,

our team is able to design, develop, and launch unique, multifaceted yet easy to use cloud based products and solutions.”

CUI

20050 SW 112th Avenue
 Tualatin, OR 97062
<https://www.cui.com/>

Founded in 1989, CUI manufactures a range of electronic components. Those involved with power electronics may be familiar with its power supply modules, which include ac-dc power supplies and dc-dc converters. Also of interest is its thermal management line, which includes dc fans, heatsinks and Peltier devices. The company also offers connectors, audio transducers and rotary encoders. Describing its leadership in power electronics, the company says, “we support our customers as they strive to improve the energy efficiency and environmental credentials of their application.”

Tektronix

14150 SW Karl Braun Drive
 Beaverton, OR 97077
<https://www.tek.com/>

About 12 miles west of Portland is one of the best known names in electronics test and measurement, Tektronix. Famous for its oscilloscopes, it also offers other instruments and support for characterization of power devices and power supplies, as well as instruments and support for related areas such as EMI/EMC testing. The company describes itself as follows: “Tektronix designs and manufactures test and measurement solutions to break through the walls of complexity, and accelerate global innovation. Together we empower engineers to create and realize technological advances with ever greater ease, speed and accuracy. Tektronix solutions have supported many of humankind’s greatest advances of the past 70 years. Health. Communication. Mobility. Space. With offices in 21 countries, we are committed to the scientists, engineers and technicians around the world who will define the future.”

Mentor Graphics

8005 S.W. Boeckman Road
 Wilsonville, Oregon 97070-7777
<https://www.mentor.com/>

Well known in the electronic design automation field, Mentor Graphics provides “products, consulting services, and award-winning support for the world’s most successful electronic, semiconductor, and systems companies.” Its portfolio encompasses a wide array of tools for designing devices and systems. The table below highlights the areas their tools address. Many of these tools are relevant to the design of power electronic systems and applications.

Electronic Design Automation	Systems	Thermal simulation & test	Automotive	Embedded
Virtual prototyping	Electrical system, networks & harness	CAD-embedded CFD	Connectivity	Software products
High-level synthesis	System modeling & design management	Electronics cooling-CFD	Electrification	IoT solutions
RTL low power opt & analysis	PCB & IC package design	Semiconductor device thermal testing	Autonomous	Services
Functional verification	PCB manufacturing, assembly & test	1D CFD	Architecture	Industries
Tanner AMS IC design flow				

Tanner MEMS design flow				
IC design				
IC manufacturing				
IC test				
Intellectual property				
FPGA				

LPKF Laser & Electronics North America

12555 SW Leveton Drive
 Tualatin, OR 97062
<http://www.lpkfusa.com/>

Known for its machines that perform milling and drilling for rapid prototyping of pc boards, this company is based in Germany but has its North American headquarters in Tualatin, a suburb of Portland. Describing itself in broad terms, the company says "LPKF develops systems and process solutions for tasks in printed circuit board technology and microelectronics." In addition to PCB prototyping, the company offers laser-based equipment used in IC packaging, making of SMT stencils, laser structuring of circuit layouts on 3D injection molded plastic parts, structuring of thin film solar cells, plastic parts welding, and digital printing. There's also equipment for PCB processing and PCB depaneling.

Lattice Semiconductor

HQ:
 7th Floor, 111 SW 5th Avenue
 Portland, OR 97204

Oregon Development Center:
 5555 Northeast Moore Court
 Hillsboro, OR 97124
<http://www.latticesemi.com/>

According to the company, "Lattice Semiconductor provides smart connectivity solutions powered by our low power FPGA, video ASSP, 60 GHz millimeter wave, and IP products to the consumer, communications, industrial, computing, and automotive markets worldwide. Our unwavering commitment to our customers enables them to accelerate their innovation, creating an ever better and more connected world." Their portfolio includes products for power and thermal management.

Sunstone Circuits

13626 S. Freeman Road
 Mulino, OR 97042
<https://www.sunstone.com/>

In business for over 40 years, Sunstone Circuits describes itself as "one of the most experienced PCB manufacturers in the USA. We're proud to manufacture high-quality products, and provide a safe and prosperous workplace for our employees."

Cascade Systems Technology

6330 NE Bennett St.
 Hillsboro, OR 97124
<https://www.cascadesystems.net/index.html>

Cascade Systems Technology (CST) describes itself as "a premier contract manufacturing company specializing in Electronic Manufacturing Services (EMS)" According to the company its "serves the Greater Portland region, Pacific Northwest, and beyond...With over 26 years as a supplier of choice, CST offers a depth of experience with a variety of industrial, commercial, medical, aerospace, energy, and defense applications. Additional project scopes incorporate LED, electric vehicle equipment, sensors, cables, wire assemblies, and the Internet of Things."

URS Electronics

123 N.E. Seventh Avenue
Portland, OR 97214
<https://www.ursele.com/>

This electronics distributor has been serving the Pacific Northwest since 1935. The company describes what sets it apart from its competitors, saying it provides “top-notch customer care, competitive pricing and a storefront for anyone to stop by to check out the products we carry.” The company also notes it “has a long-standing relationship with top electronics brands. We work directly with manufacturers, as an authorized franchised distributor, which ensures the products you purchase from us come directly from the manufacturer, avoiding any questions on the quality and legitimacy of what you are getting.”