Industry Strength

The computers and electronics industry – semiconductors in particular – is one of Greater Portland’s powerhouse sectors. The industry is part of a technological ecosystem that includes global corporations, as well as small- and medium-sized companies. This ecosystem produces components that provide crucial technology to the rest of the world.

Silicon Forest

Decades of investment in Greater Portland by Intel and Tektronix has cultivated a forest of thousands of technology firms and their suppliers. Tektronix, the oscilloscope manufacturer known as the godfather of Oregon’s tech industry, was founded in Portland in 1946 and moved into its Beaverton campus in 1959. Since Intel’s first investment in Oregon in 1974, the chipmaker’s capital investments in the state have topped $40 billion.

BY THE NUMBERS

35,451
Total number of jobs in computers and electronics
—JIAA Advanced Manufacturing Report

183
Computers and electronics firms

$10.2 Billion in international exports

$37.6 Billion made in sales revenue

46%
The share of Greater Portland’s labor pool that works in STEM fields.
—Town Charts

LARGEST COMPUTERS + ELECTRONICS FIRMS
IN GREATER PORTLAND

1. Intel
   20,000 Employees
2. Lam Research
   3,000 Employees
3. Tektronix
   1,293 Employees
4. Xerox
   1,069 Employees
5. Mentor Graphics
   1,043 Employees
6. ON Semiconductor
   845 Employees
7. Qorvo
   710 Employees
8. Microchip Technologies
   553 Employees
9. Jireh Semiconductor
   474 Employees
10. WaferTech, LLC
    448 Employees
11. Applied Materials
    394 Employees
12. SEH America, Inc
    373 Employees

—PBJ Book of Lists, The Oregonian, 2018
SUCCESS STORIES

INTEL
The Intel Ronler Acres campus in Hillsboro is home to some of the most advanced R&D in the world. As the hub of Intel’s global R&D operations, Greater Portland has grown into an epicenter for the semiconductor industry and its supply chain. More than 30 Intel suppliers operate in Hillsboro, adding thousands of jobs and millions of dollars in investment to Intel’s contribution as Oregon’s largest private employer.

HP 3D OPEN MATERIALS + APPLICATIONS LAB
In 2016, HP unveiled its Multi Jet Fusion technology, which could revolutionize the 3D printing world and mainstream manufacturing. The new technology is up to 10 times faster than competing products, and has the ability to produce industrial-grade parts. HP’s Vancouver office is home to the company’s new Open Materials and Applications Lab, where HP’s material partners collaborate with engineers to develop, test and receive feedback on new powders for the new 3D printing technology.

LAM RESEARCH
As the world’s second-largest semiconductor equipment manufacturer, Lam’s products help enable the trillion-dollar global electronics industry. Lam’s research campus in Tualatin employs more than 3,000 engineers, physicists and other highly educated workers. The newly expanded campus now spans 500,000 square feet and includes two new offices buildings and an updated R&D lab.

EXPERTISE IN ACTION
A new “system on a chip” developed at Oregon State University can provide sophisticated monitoring of medical vital signs with technology the size of a postage stamp.

“Portland is the #1 place for business and careers”
—Forbes
COMPUTERS & ELECTRONICS ECOSYSTEM

CIRCUITS
Accelerant Networks
Sunstone Circuits
Viasystems Technologies Corp.
WRS Materials Möbius Microfarms
Z Technology, Inc.

DISCRETE DEVICE MANUFACTURERS
Intel
Jireh Semiconductor
Lattice Semiconductor Corp.
Micron Semiconductor Products
ON Semiconductor
Qorvo
WaferTech

SEMICONDUCTOR SUPPLIERS
Advantest
AGC Electronics America
Applied Materials
ASM America
ASML US Inc.
BeSang
Cabot Microelectronics
Cascade Microtech
CoorsTek
Daifuku America
Disco High Tech America
EBARA Technologies, Inc.
Edwards Vacuum
From Factor
Hitachi High Technologies
Horiba
JSR Micro
KLA Tencor
Kokusai Semiconductor Equipment
KoMiCo
Lam Research Corp.
Linde
Mega Fluid Systems
Microchip Technology
Milwaukee Electronics
Nikon Precision
Quantum Clean
Screen SPE
Sumitomo Semiconductor Materials
Thermo Fisher Scientific
TOK America
Tokai Carbon
Tokyo Electron America, Inc.

ELECTRONICS
Electronic Controls
FEI
FLIR Systems
Foxconn Electronics
JAE OR Inc.
Kyocera Tycom
Leyard Optoelectronic
Mentor Graphics, a Siemens Business
Planar Systems
Silicon Forest Electronics Inc.
Vanguard EMS

COMPUTER PERIPHERALS
APCON Inc.
Hitachi Kokusai Electric America
Pixelworks Inc.
Honeywell Linear & Planar Systems
Triad Speakers Inc.

LASER TECHNOLOGY
Applied Laser Technology Inc.
Electro Scientific Industries (ESI)
EDUCATED & ENGAGED

HOW GREATER PORTLAND STACKS UP TO THE NATIONAL AVERAGE

6.5X
The concentration of computer hardware engineers

16X
The concentration of semiconductor processors

THE BREAKDOWN: ENGINEERING/RELATED OCCUPATIONS IN GREATER PORTLAND

ENGINEERING MANAGERS:
3,310 Employees

COMPUTER HARDWARE ENGINEERS:
1,370 Employees

ELECTRICAL ENGINEERS:
2,570 Employees

ELECTRONICS ENGINEERS:
5,410 Employees

INDUSTRIAL ENGINEERS:
3,530 Employees

ENGINEERS ALL OTHER:
2,250 Employees

ELECTRICAL + ELECTRONICS ENGINEERING TECHNICIANS:
3,120 Employees

ENGINEERING TECHNICIANS EXCEPT DRAFTERS, ALL OTHER:
1,060 Employees

ELECTRICAL + ELECTRONIC REPAIRERS FOR COMMERCIAL + INDUSTRIAL EQUIPMENT:
960 Employees

1ST LINE SUPERVISORS:
4,700 Employees

SKILLED ASSEMBLY:
12,630 Employees

SKILLED INSPECTORS:
3,880 Employees

SEMICONDUCTOR PROCESSORS:
3,990 Employees

ENGINEERING GRADUATES BY UNIVERSITY

<table>
<thead>
<tr>
<th>University</th>
<th>Total degrees</th>
<th>Bachelor's Degrees</th>
<th>Master's Degrees</th>
<th>Doctorates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oregon State University</td>
<td>1,052</td>
<td>775 BS</td>
<td>239 MS</td>
<td>38 PhD</td>
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<tr>
<td>Portland State University</td>
<td>443</td>
<td>211 MS</td>
<td>13 PhD</td>
<td>206 BS</td>
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<tr>
<td>Washington State University</td>
<td>158</td>
<td>142 BS</td>
<td>16 MS</td>
<td></td>
</tr>
<tr>
<td>University of Portland</td>
<td>117</td>
<td>105 BS</td>
<td>12 MS</td>
<td></td>
</tr>
</tbody>
</table>

—National Center for Education Statistics, WSU V

—Bureau of Labor Statistics
In Greater Portland the cost of doing business is **9% below the national average**, according to Moody’s Analytics.

**COMPETITIVE COMMERCIAL REAL ESTATE COSTS**

- FLEX SPACE $PSF: Greater Portland - Vancouver: $13.28
- INDUSTRIAL $PSF: Los Angeles: $21.19
- Los Angeles: $11.95
- San Jose: $26.08
- San Jose: $23.18
- San Diego: $18.14
- San Diego: $13.28

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**PEER CITY COMPARISON CHART**

**COST OF LIVING INDEX (US=100)**

Living in Greater Portland is **less expensive** than its peer regions.  
—C2ER, 2017 INDEX

**MEDIAN HOME VALUES**

Greater Portland is an **incredible value** compared to its peer regions.  
—NATIONAL ASSOCIATION OF REALTORS, 2017
America’s Best Airport

Portland International Airport has been voted “America’s Best Airport” in Travel + Leisure Magazine’s reader survey six years in a row (2013-2018), and was ranked No. 1 in airport satisfaction by J.D. Power (Dec 2016).

GO INTERNATIONAL NON-STOP

11 international non-stop destinations reachable from Portland including:

- Amsterdam, Netherlands
- Calgary, Alberta, Canada
- Frankfurt, Germany
- Guadalajara, Mexico
- London, England
- Puerto Vallarta, Mexico
- Reykjavik, Iceland
- San Jose del Cabo, Mexico
- Tokyo, Japan
- Toronto, Ontario, Canada
- Vancouver, BC, Canada

Global Connections

17 Airlines

Key international & domestic passenger carriers serve travelers at Portland International Airport:

- Air Canada
- Alaska
- American
- Boutique Air
- Condor
- Delta
- Frontier
- Hawaiian
- Iceland Air
- JetBlue
- PenAir
- Southwest
- Spirit
- Sun Country
- United
- Virgin America
- Volaris

—Innovata schedules for Summer 2017

Meet the Team

Matt Miller
Interim President & CEO
Matt.Miller@greaterportlandinc.com
503.445.8065 x109

Larry Holt
Vice President of Business Development
Larry.Holt@greaterportlandinc.com
503.445.8065 x103

Amy Jauron
Director of Business Development
Amy.Jauron@greaterportlandinc.com
503.445.8065 x104

GreaterPortlandInc.com
bizdev@greaterportlandinc.com
111 SW Columbia St., Suite 830
Portland, OR 97201
(503) 445-8065

@GreaterPDX
facebook.com/GreaterPortlandInc
linkedin.com/company/greater-portland-inc
@GreaterPortlandInc