

Advanced Manufacturing – Metals and Machinery

Oregon's largest metals employers, such as Consolidated Metco, Vigor Industrial, Oregon Cutting Systems, and Precision Castparts, have deep roots in Clackamas County. Oregon's metals industry is a vital part of the state's economy with over 1,700 businesses providing nearly 55,000 jobs. Metals manufacturing is a mature industry undergoing a transformation in the age of global competition. Early on iron and metals production supported railroad and ship building. Iron and aluminum smelters once operated along the banks of the Columbia and Willamette rivers. Today, Oregon's metals industries produce a wide range of goods including computer components, jet engines, turbines for wind power generators, streetcars, rebar and multipurpose tools.



Economic Benefits to Clackamas County and the Region

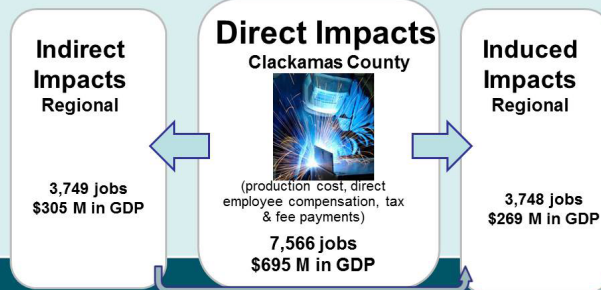
The advanced manufacturing – metals and machinery cluster has mature roots in Clackamas County, which once produced steel milled from iron ore along the banks of the Willamette River. Today, 195 companies within this cluster provide employment to over 7,500 workers in Clackamas County. This cluster includes several of the county's largest employers, which support hundreds of small and medium size suppliers. Key advantages of this cluster include above average wage levels, with opportunities for a wide range of skill levels, from administration and sales/marketing to engineering managers and technicians. This cluster has a strong tendency to favor Clackamas County over other regional and national locations. As a direct economic benefit, production costs, employee compensation, and tax payments account for \$695 million in direct value added GDP in Clackamas County, and leverages an additional \$574 million in secondary regional GDP from supply chain purchases and employee spending multipliers.

Advanced Manufacturing – Metals and Machinery Current Stats for Clackamas County

- Gross Domestic Product (GDP): \$695 M
- Cluster Share of County GDP: 3.8%
- Exports/Sales from Outside Region: 88%
- Direct Employment: 7,566
- County Businesses: 195
- Number of Businesses in the Top 100: 2
- 10-year Job Growth Forecast: 16%
- Cluster Location Quotient (LQ): 2.05

Source: compiled by FCS GROUP based on IMPLAN (2013), adjusted to 2015 dollars. 10-year forecast provided by the Oregon Employment Department. GDP = gross domestic product. Location Quotient (LQ) depicts relative share of this industry's contribution in Clackamas County compared to this industry's contribution in the 9-county Metropolitan Statistical Area.

Advanced Mfg. – Metals & Machinery 2013 Impacts



Total Impact on Region: 15,063 jobs; \$1,269 M in GDP



CLACKAMAS COUNTY ECONOMIC LANDSCAPE

Advanced Manufacturing – Metals and Machinery

Advanced Manufacturing – Metals and Machinery Cluster: Annual Economic Benefits

	2006	2010	2013
Industry Location Quotient	1.92	1.85	2.05
Contribution to County GDP	3.0%	4.9%	3.8%
Business Establishments in County	212	225	195
Average Labor Income in County (per job)	\$65,916	\$73,367	\$69,230
Labor Income in County	\$512,890,000	\$491,340,000	\$523,790,000
Employment			
Direct Jobs in Clackamas County	7,781	6,697	7,566
Secondary Employment	7,690	4,304	7,496
Total Direct & Secondary Employment	15,471	11,001	15,062
Direct GDP and Output in Clackamas County			
Direct GDP (Value Added)	\$784,630,000	\$729,080,000	\$695,180,000
% Traded Outside Region	n/a	77%	88%
Output	\$2,062,880,000	\$1,743,140,000	\$2,091,810,000

GDP = Gross Domestic Product.

Source: Analysis by FCS GROUP. All data in this table with the exception of business establishments, are based on 2006, 2010, 2013 IMPLAN estimates. Employment reflects total jobs (full and part time workers as well as the self-employed). Estimated business establishments are derived from the Oregon Employment Department. Location quotients are based on Clackamas County's relative propensity to attract employers within this cluster in comparison to the nine-county Portland-Vancouver Metropolitan Statistical Area (MSA). *Note: Dollar figures are adjusted to 2015 dollars.*

Advanced Manufacturing – Metals and Machinery Strategic Market Opportunities

Innovations in chemical manufacturing are resulting in new higher-strength and super conductive metal materials for use in all types of products (e.g., cars, baseball bats, computer circuits and semi-conductors). Liquid metal alloy ion coatings will find new applications in the use of solar panels and photovoltaic applications for solar power generation products.

- Metals recycling is a focus of Clackamas County companies. As demand grows for metals, opportunities for value-added manufacturing using recycled content will increase.

Advanced Manufacturing: Metals and Machinery Cluster North American Industrial Classification System (NAICS) Categories

331: Primary Metal Manufacturing

This sector includes the smelting or refinement of ferrous and non ferrous metals. Establishments in this sector also manufacture metal alloys used in rolling and extruding operations to make sheet, strip, bar, rod, or wire for castings and other basic metal products.

332: Fabricated Metal Product Manufacturing

Industries in this sector transform metal into intermediate or end products, excluding machinery, computers, electronics, metal furniture and related products. Fabricated metal processes include forging, stamping, bending forming, machining, welding and assembling. Examples include metal pipe manufacturing.

333: Machinery Manufacturing

Industries in this sector transform metal into machinery or tools used for the manufacture of goods.

Sample of Metals and Machinery Manufacturing Companies in Clackamas County

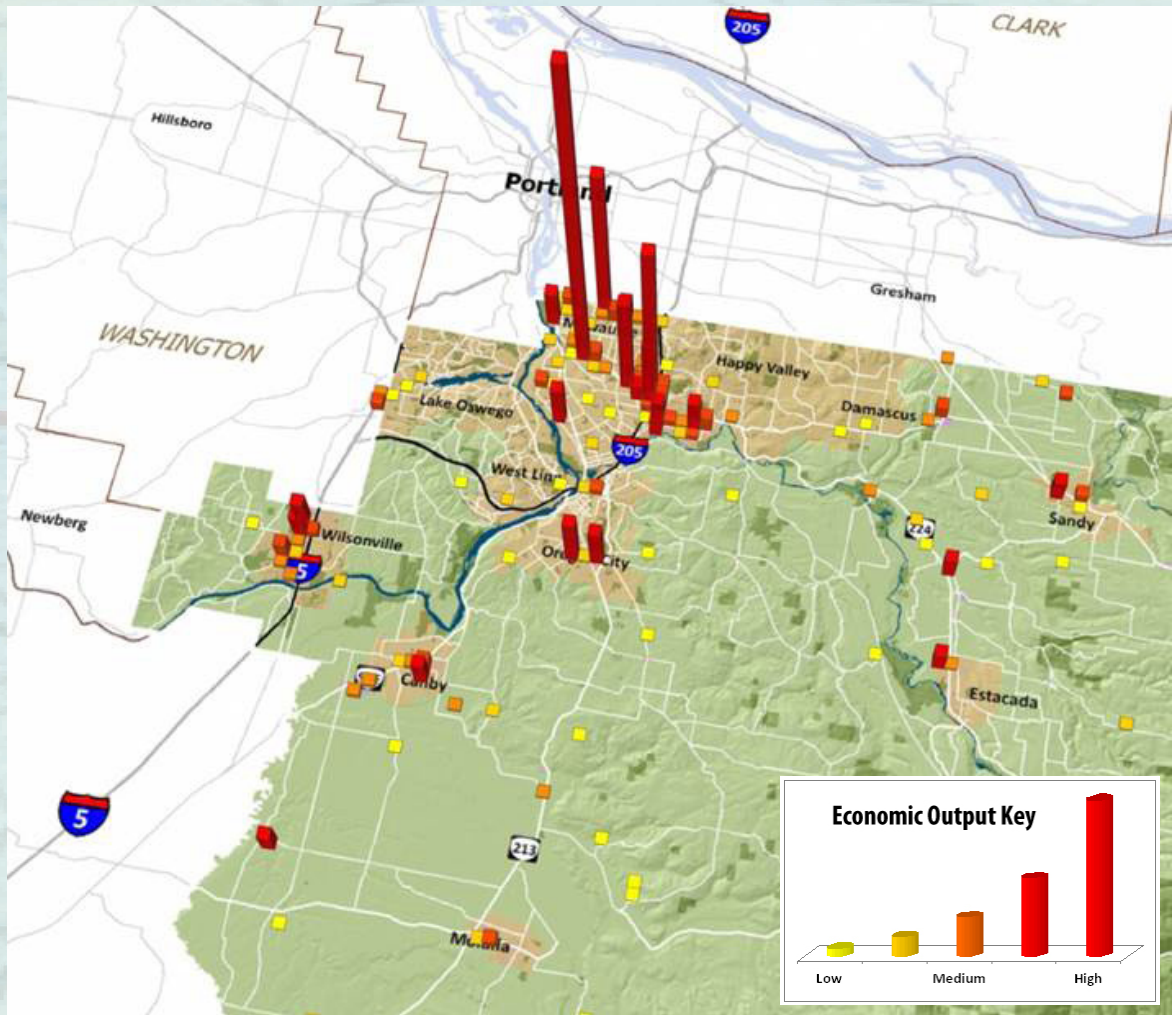
Consolidated Metco Inc.
Cornell Pump
Crimson Trace Corp.
Eagle Foundry Co.
JV Northwest Inc.
Orchid Orthopedic Solutions Oregon,
Oregon Iron Works Inc. *
Precision Castparts *
Stanley Black & Decker Inc.
WW Group Inc.

Source: Oregon Employment Department; FCS GROUP
 *Indicates Top 100 County Business listing



Photosourceswww.blount.com

Existing Advanced Manufacturing – Metals and Machinery Businesses in Clackamas County: Annual Regional Economic Output by Location*



*Reflects total economic output attributed to business activities measured in 2013 using the IMPLAN model for Clackamas County.

Career Opportunities

The Oregon Employment Department forecasts new job openings for occupations in the metals and machinery cluster for expected expansion as well as the replacement of existing positions due to retiring workers. The leading job occupations in this cluster include:

- Sales representatives
- Mechanical engineers
- Welders
- Laborers and production workers
- General managers and operations managers
- Shipping and logistics
- Inspectors/quality control
- Assemblers
- Bookkeeping and accounting



Resources

Clackamas County Business & Economic Development
www.clackamas.us/business

Business Oregon
www.oregon4biz.com

Clackamas Workforce Partnership
www.clackamasworkforce.org

Manufacturing 21 Coalition
www.manufacturing21.com

Clackamas Community College
www.clackamas.edu

Oregon Institute of Technology
www.oit.edu/portland

Marylhurst College
www.marylhurst.edu

Oregon Manufacturing Extension Partnership
www.omep.org

Contact Information

Clackamas County Business & Economic Development
 150 Beaver Creek Road
 Oregon City, Oregon 97045
 503-742-4329
4biz@clackamas.us
www.clackamas.us/business

