



## Manufacturing – Metal Fabrication and Machinery Manufacturing

Edmonton is ideally situated and exceptionally well prepared to handle the growing demand anticipated for its manufacturing sector – from both the domestic resource sector and international markets.

With a focus on metal fabrication and machinery manufacturing, Edmonton is the centre of nearly 40% of Alberta's manufacturing, with the sector contributing to one of the most diverse economies in Canada.

### Sector snapshot

Manufacturing – particularly metal fabrication and machinery manufacture – is big business in Edmonton. Fuelled by the energy sector, markets are demanding a range of machinery and metal fabrication from pipe and drilling tools to taps, cocks and valves.

Domestic markets remain a dominant focus for the sector. This substantial domestic customer base in Northern Alberta and Northern Canada is easily serviced through the outstanding connections by road, rail and air.

While the manufacturing heavyweights are in metal fabrication and machinery, Edmonton is also home to some production for industrial, commercial and residential construction materials as well as a small but innovative food manufacturing sector.

Edmonton's metal and machinery companies offer a wide variety of goods and manufacturing services. Examples include:

- drilling rigs and tools, pipe, valves, pressurized vessels, pumps, boring or sinking machinery, derricks, instrumentation and truck trailers to transport oversized goods,
- custom solutions and repairs,
- coatings and heat treatments to metals and pipes, and
- component manufacturing and module fabrication and assembly for oil sands and related energy projects.

### Edmonton's manufacturing sector in brief:<sup>1</sup>

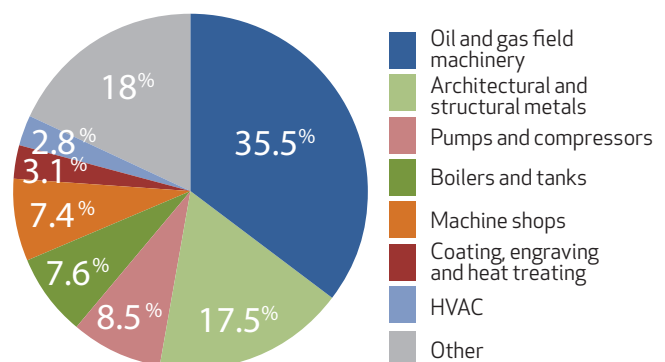
- Manufacturing accounted for 10% of the Edmonton CMA's GDP in 2010 and grew to approximately 13% in 2012<sup>2</sup> for an economic contribution of approximately \$10 billion.<sup>3</sup>
- Most of the 2,000 manufacturers in the region are small and medium-sized businesses.
- The sector includes 13 subsectors with fabricated metal products (23%) and machinery (15%) the dominant two.

Edmonton's manufacturing sector plays an important role in the overall contributions from manufacturing to Alberta's economic success.

Investments in productivity and enhanced production techniques ensure local manufacturers remain competitive with traditional exports markets such as the U.S. In addition, global markets from Mexico to Russia are taking notice of Edmonton's manufacturing prowess and steadily increasing their business with Edmonton.

### Alberta's metal manufacturing sector in brief:<sup>4</sup>

- 2012 revenues: \$14.5 billion
- Exports: \$4.1 billion
- Employees: almost 50,400



<sup>1</sup> <http://www.edmonton.com/for-business/3386.aspx>

<sup>2</sup> City of Edmonton GDP by Industry, edmonton.ca, 2013

<sup>3</sup> Edmonton Economic Update, June 2013

<sup>4</sup> Metal Manufacturing, Profile 2012, Government of Alberta

### University of Alberta

- Canadian Centre for Welding and Joining, within the Faculty of Engineering<sup>1</sup>
- Welding and metallurgy a featured area of research within the Department of Chemical and Materials Engineering
- Research focuses on productivity, weldability, automation and performance
- Works with Alberta Innovates and the Government of Alberta to support the Alberta Metal Fabrication Innovation Program (AMFI) offering private sector opportunities to enhance efficiency, productivity and competitiveness
- Faculty of Engineering - top 5% of North American engineering faculties
- Features over 5,500 students, over 200 professors and 50 research chairs
- Attracts over \$50 million annually from external sources for sponsored research funding

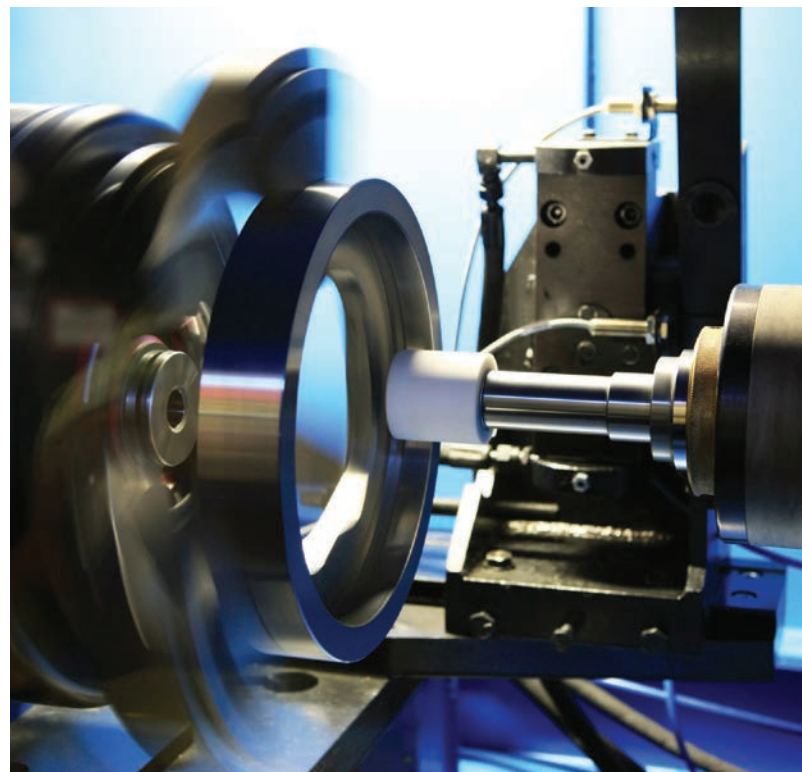
### Northern Alberta Institute of Technology (NAIT)

- Largest apprenticeship training program in Canada with capacity to train 15,000 apprentices in 33 trades annually
- Certificate or diploma programs linked to the manufacturing sector include courses in:
  - airbrake certification
  - autobody
  - automotive
  - blacksmithing
  - fluid power
  - heavy equipment
  - HVAC
  - hydronic design and installation
  - industrial heavy equipment
  - instrumentation
  - machine shop
  - Mastercam
  - mechanical engineering technology
  - millwrighting
  - oil field thread inspection
  - power engineering
  - steamfitter/pipefitter
  - welding

The NAIT Shell Manufacturing gives the sector exposure to leading-edge manufacturing processes and ideas, enabling industry to apply the innovations to their own operations. Specialty areas include lean manufacturing, prototyping, fabrication, control systems, and robotics and automation.

### Local metal manufacturing support organizations:

- Alberta Metals Portal
- Alberta Pressure Vessels Manufacturers' Association
- Canadian Manufacturers and Exports Association - Edmonton
- Canadian Welding Association - Edmonton
- Society for Manufacturing Engineers - Edmonton
- Productivity Alberta
- AVAC Ltd.
- Alberta Innovates – Alberta Research and Innovation Authority
- Alberta Energy Research Institute
- Alberta Metal Fab Innovation (AMFI)



## SECTOR-SPECIFIC INDUSTRIAL ATTRIBUTES

### Edmonton manufacturing companies include:<sup>1</sup>

- Allfab Metals Ltd. (E.S. Fox Ltd. Constructors)
- Cessco Fabrication & Engineering
- Collins Industries
- Dacro Industries
- CWS Industries
- Edmonton Exchanger & Manufacturing Ltd.
- Flexxaire Manufacturing
- Great Western Containers
- IPEX
- KBR
- Ledcor Group of Companies (Ledcor Industrial)
- Lenmak Exterior Innovation
- Metal Fabricators and Welding
- AltaSteel (OneSteel)
- Oxford Machine & Welding
- PCL Group of Companies (PCL Industrial)
- Precision Steel and Manufacturing
- Ramparts Steel
- Shaw Pipe Protection Ltd.
- Spartan Steel Ltd.
- Streamflow Group of Companies
- Supreme Steel Group
- Thermal Design Engineering
- Top-Co Group Inc.
- Truck Master Manufacturing and Equipment Ltd.
- Universal Machine Corporation
- Waiward Steel Fabricators
- Welco Beales Industries

### Industrial land in Edmonton<sup>2</sup>

- Edmonton's four industrial districts – the northwest, south, northeast and the Edmonton Energy and Technology Park (EETP) offer a variety of industrial and mixed-use neighbourhoods.
- Manufacturing accounts for approximately a quarter of all activity in the northeast district.
- Edmonton has 1,714 gross ha (4,230 gross acres) of vacant industrial land available for development, excluding the EETP.
- There are more than 813 net ha (2,010 net acres) vacant zoned industrial land with more than half considered ready for immediate development.
- The EETP has a total gross supply of 4,860 ha (12,009 acres).
- The EETP has designated 2,014 net acres for future development within the manufacturing precinct.
- Land prices within the EETP start as low as \$40,000 per acre based on un-serviced land.

In addition to industrial sites, Edmonton boasts a supply of highly cost-competitive AA office space both in the city core and in business parks located near the industrial districts.

### Metal manufacturing - sector workforce, training and R & D

Labour productivity in industrial manufacturing exceeds the average for all Alberta sectors.<sup>3</sup>

Examples of labour rates in this sector are:<sup>4</sup>

	<b>EDMONTON HOURLY</b>
<b>Mechanical assemblers and inspectors</b>	<b>\$21.15</b>
<b>Machining tool operators</b>	<b>\$23.95</b>
<b>Machine operators, mineral and metal processing</b>	<b>\$29.11</b>
<b>Welders and related machine operators</b>	<b>\$32.01</b>

A relatively small percentage of manufacturing operations are unionized, labour rates are competitive and work stoppages extremely low.

<sup>1</sup> Hoovers Database January 2012 and Alberta Finance and Enterprise and Edmonton Economic Development Corporation

<sup>2</sup> City of Edmonton Vacant Industrial Land Update, July 2013

<sup>3</sup> Alberta Finance and Enterprise - Alberta Industry Sector Performance and Prospects

<sup>5</sup> www.WAGEinfo, 2011 Alberta Wage and Salary Data

**The majority of Alberta's metal manufactured goods stay within Alberta to support the province's energy sector but exports are picking up steam:**<sup>1 2</sup>

- about 55% of output is shipped to customers within Alberta,
- 15% is shipped elsewhere in Canada,
- about 30% is exported internationally,
- the U.S. is the sector's largest export market with exports of various types of primary metal, machinery and fabricated metals to Australia, China, Russia, the Netherlands and South Korea,
- overall manufacturing exports continued a four-year growth trend in 2012 to reach \$22.3 billion with the following major subsectors:
  - machinery - \$3.3 billion
  - primary and fabricated metal products - \$2.0 billion

Transportation infrastructure ensures products from Edmonton can easily reach key domestic and international markets. Edmonton's major connections to customers include:

- Highway 63 north and CN's northern link to Fort McMurray and the oil sands,
- the Yellowhead Highway, the northern trans-Canada route,
- CN's northern trans-Canada line connecting the Port of Prince Rupert to North American markets through Edmonton, and
- the Canamex and Ports to Plains routes that connect Edmonton to key Midwest and southern U.S. and Mexican markets and ports.
- Edmonton International Airport's air cargo services feature:<sup>3</sup>
  - 10 airlines,
  - eight integrated couriers/freight carriers,
  - two independent cargo handlers, and
  - more than 25 freight forwarders and customs brokers, and
  - five cargo-handling terminals including three with coolers/freezers.

## Metal manufacturing opportunities

Alberta's energy and resource sector is anticipating a very positive future and, therefore, Edmonton's manufacturing sector also anticipates continuing its current growth trend.

Northern Alberta's economic activity expects to drive nearly \$200 billion of new construction and maintenance spending over the next 25 years, much of it in fabricated metal products:<sup>4</sup>

- metal fabrication including the fabrication and assembly of modular processing units, architectural and structural metals; boiler, tank and shipping containers; coating, engraving, heat treating and related activities; and precision machining for turned products and screw, nut and bolt manufacturing, and
- machinery manufacturing for sectors including agriculture, construction, mining, power transmission, heating, ventilation and air-conditioning and commercial refrigeration.

Edmonton's industrial sector represents the largest employment growth sector in Edmonton, comprising approximately 36% of total forecast employment growth.<sup>5</sup>

Not only is there business opportunity in fabricating components for new plant construction, there is ongoing opportunity to service the processing sector during routine maintenance and plant upgrades. The petrochemical and oil sands processing companies currently project expenditures of 1 – 1.5% of the value of their capital assets on routine annual maintenance.

With \$30 billion in capital assets in the region, these expenditures create a sizable customer base for firms specializing in or supporting annual plant maintenance or specialized plant turnaround maintenance both locally and Northern Alberta.

Edmonton is ready – with customers, connections and a cost-competitive business environment to build and operate manufacturing facilities.

1 Metal Manufacturing Profile 2012, Government of Alberta  
 2 Alberta's International Exports by Industry – a 10-Year Review, Government of Alberta, May 2013  
 3 Edmonton International Airport, 2013  
 4 <http://www.albertacanada.com/about-alberta/metal-fabrication-and-machinery-manufacturing.html>  
 5 [http://www.edmonton.ca/business\\_economy/documents/Edmonton\\_Industrial\\_Land\\_Supply\\_Study\\_2011.pdf](http://www.edmonton.ca/business_economy/documents/Edmonton_Industrial_Land_Supply_Study_2011.pdf)



## Metal manufacturing sector competitive position

According to KPMG's Competitive Alternatives 2012 report, Canada offers a 3.1% to 3.8% cost advantage over the U.S.

Edmonton is the centre for manufacturing operations within the region which translates into a competitive advantage for future development of this sector and the City. Edmonton offers metal manufacturers:

- a large and diverse range of industrial land from shovel-ready property for greenfield development to leasing opportunities within existing developed industrial properties,<sup>1</sup>
- a range of service levels, from full urban servicing to partial or rural level services, to meet industry's needs,
- lowest property taxes of 9 comparable locations including no machinery and equipment (M & E) taxes and no provincial sales tax,
- outstanding road, rail and air connections to bring raw materials into the market and final products north to the resource locations and south and west to export markets,
- modern, state-of-the-art utility infrastructure ensuring stable and cost-effective supplies of water, power and natural gas, and
- access to a full range of skilled and semi-skilled labour,
- diverse affordable housing options,
- city-wide public transit service, and
- world-class technical trade training support.

