

Engineering in Sarnia Lambton



Engineers are a critical component of the labour force in Sarnia Lambton. They are employed in a number of local industry sectors including: professional, scientific and technical services, construction, manufacturing, utilities and others.

Approximately 70 businesses employ engineers in Sarnia Lambton.¹

Professional engineers in Sarnia Lambton usually require a university education² and a license from the Professional Engineers of Ontario.³

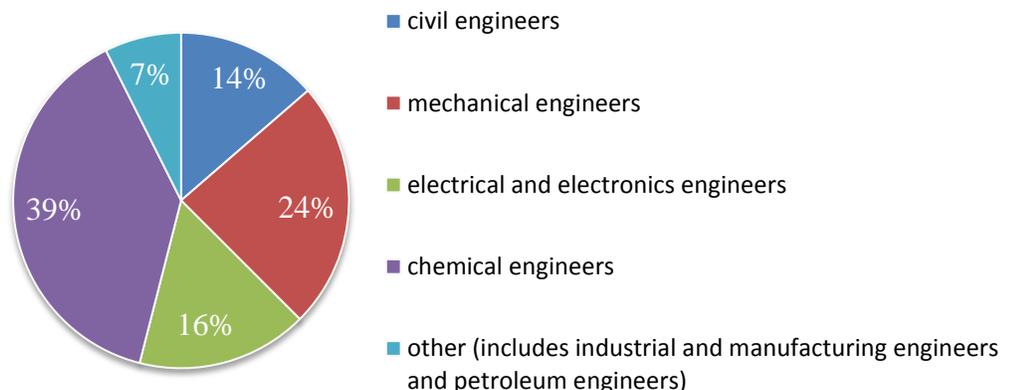
Engineering jobs held in Sarnia Lambton in 2011:

920 individuals held jobs in engineering (civil, mechanical, electrical, chemical or other) in 2011.

**based on 3-digit NOC*

Chart at right shows % of jobs held by type of engineer.

**based on 4-digit NOC*



Source: Statistics Canada, *NHS, 2011.*

A number of jobs were also held in related technical positions in engineering in Sarnia Lambton in 2011, for details see “Engineers and Related Technical Positions in Sarnia Lambton” infographic found at <http://www.slwdb.org/publications/research-reports/>.

¹ Compiled from Canada 411 and Sarnia Lambton Industrial Alliance Directory. See listing at www.slwdb.org/publications/research-reports.

² Government of Canada, National Occupation Classification Matrix, 2011.

Note: Engineers are listed under the category of Skill Type 2 (natural and applied sciences and related occupations) and Skill Level A (occupations usually requiring university education) of the National Occupation Classification System (NOC).

*NOC is the nationally accepted standard that classifies and describes occupations according to their skill type and skill level. <http://www5.hrsdc.gc.ca/noc/english/noc/2011/html/matrix.html>

³ Professional Engineers Ontario. http://www.peo.on.ca/index.php/ci_id/2038/la_id/1.htm Jan. 22, 2016

Salary Information for Engineers in Sarnia Lambton:

In the chart below, salaries are averaged across industries for mechanical, electrical and civil engineers based on one, three and five years of experience. Numbers represent base salaries before benefits.



Source: Adapted from Randstad Engineering Compensation Guide, 2015
 *Chemical engineering was not listed in the report

The Government of Canada also provides occupational wage information online at jobbank.gc.ca. This data is based on economic region (and is not listed individually by county). Sarnia Lambton is part of the Windsor-Sarnia economic region. The following represents median hourly wage for the Windsor-Sarnia economic region:

- Mechanical engineer: \$37.02
- Electrical engineer: \$37.98
- Civil engineer: \$39.00
- Chemical engineer: \$50.33

Source: Statistics Canada, Labour Force Survey, 2015 http://www.jobbank.gc.ca/wage-outlook_search-eng.do?reportOption=wage, taken on Jan. 22, 2016.

A note about salary & wages:

“...for job seekers, it isn’t just salary that makes a job worth taking, but the culture fit and management style that best suits their life and work habits. Employers need to offer more than a paycheck to get top talent.”⁴

Consultations with local stakeholders⁵ concurred: non-monetary incentives (e.g. work environment and schedule, growth opportunities, company culture, etc.) as well as the perceived fit candidates see within the local community for themselves and their family often has a big impact on a candidate’s job selection choice.

⁴ Randstad Engineering Compensation Guide 2015, p.2 www.randstad.ca/engineering

⁵ SLWDB industry consultations. 2014 – 2015. Approximately 16 stakeholders from engineering or engineering-related industries participated.

Labour Market for Engineers in Sarnia Lambton:

Sector Data:

Engineering services, delivered by engineering firms, are classified under the professional, scientific and technical services sector of the North American Industry Classification System (NAICS).

This sector includes a variety of areas, such as: engineering, legal, accounting, architecture, graphic design, public relations, advertising, photography, computer and information systems, and other professional services.

Data from *Canadian Business Counts* indicates that in June 2015 there were 801 businesses operating in the professional, scientific and technical services sector in Sarnia Lambton.⁶ The specific number of businesses in each area of professional service is not known.

The Sarnia Lambton Workforce Development Board (SLWDB), [Local Labour Market Plan 2014-2015](#), reported a growth in the professional, scientific and technical services sector between 2009 and 2014.

About NAICS:

- A hierarchical industry classification system that encompasses economic activities.
- At the highest level it divides the economy into 20 sectors.
- At the lower levels, it distinguishes the economic activities in which businesses are engaged.
- The criteria used to group establishments into industries in NAICS are similarity of input structures, labour skills and production processes.

Source: Statistics Canada, NAICS 2012.

<http://www.statcan.gc.ca/eng/subjects/standard/naics/2012/introduction>

EmployerOne Survey Results:

The SLWDB EmployerOne Survey is an annual survey of local employers which helps to determine labour market needs in our community. In January 2015, 96 employers responded to the survey. A number of employers reported hiring engineers in 2014.

Consultation Information:

Consultations were conducted in 2014 and 2015 by SLWDB with stakeholders from the local engineering or engineering-related industries. Approximately 16 stakeholders participated. The majority of those consulted agreed that certain engineering positions (such as instrumentation and controls engineers, chemical (process) engineers, electrical engineers, among others) and engineers with specific experience levels (especially intermediate [3-5 years] and senior [8-10 years]) are in demand and often hard-to-fill positions.

⁶ Statistics Canada, Canadian Business Counts, establishment and location counts, employment size and North American Industry Classification System (NAICS), June 2015

Online Job Postings Data:

From January 2014 – December 2014, there were a number of job ads posted for engineers through online (internet) advertising sources in the Sarnia Lambton area. The chart below indicates some of those job titles and the number of online position postings during that time period.

Position Title	# of positions
Engineering managers	6
Electrical and electronics engineers	52
Mechanical engineers	40
Industrial and manufacturing engineers	35
Civil engineers	20
Chemical Engineers	7
Metallurgical and materials engineers	9

Source: Vicinity Online Jobs Data, 2014

Local Labour Market Challenges and/or Opportunities:

- Industry fluctuations:
The petroleum and chemical industries, which employ a number of engineering positions, have historically been a main driver of the local economy. National and global fluctuations in these industries can impact the labour market for engineers in related sectors.
- Employers searching for specialized skills and sector experience:
A report by The Ontario Society of Professional Engineers (OSPE) states that, provincially, there is a gap between industry's challenge to fill engineering positions and the surplus of individuals who have engineering degrees.⁷ Many local stakeholders agree that hiring new graduates is not necessarily a challenge locally, but rather, hiring engineers with specific levels of experience as well as specific types of related project work (e.g. maintenance, brownfield sites, environmental or bio-industrial, among others) can be a significant challenge. Compounding the issue, as some stakeholders indicate, is that succession planning has not been a major human resource practice for their organization in the past. Some local businesses are finding that as senior engineers retire, it is becoming increasingly difficult to replace that experience and skill level.
- Employers placing greater emphasis on soft skills:
The OSPE, in October 2014, emphasized that in addition to technical and sector experience, employers place a high value on soft skills. Among the most valued are oral communication skills, ability to relate to customers or clients, ability to work in a team, ability to work with diverse groups of people, ability to work with the opposite gender, written communication skills and the knowledge of Canadian business practices.⁸ The SLWDB EmployerOne 2015 survey

⁷ OSPE, "Crisis in Ontario's Engineering Labour Market: Underemployment Among Ontario's Engineering-Degree Holders, OSPE, Jan 2015, p.4-5).

⁸ OSPE, "Crisis In Canada's Engineering Labour Market", OSPE Labour Market Seminar, October 2014.

concluded with the importance placed on soft skills by employers, particularly oral and written communication skills, customer service and work ethic. Consultations with local stakeholders revealed that finding candidates who clearly and consistently display all of the soft skills which they deem important, can sometimes be a challenge.

- **Internationally-trained engineers:**

Although internationally trained engineers might meet experience requirements for job openings, some may not possess the Canadian license which many employers request.⁹ Local stakeholders also note that communication, oral and/or written, may be a challenge for some internationally trained job applicants.

Top two reasons why some engineering jobs may be hard-to-fill in Sarnia Lambton:

Consultations with local industry stakeholders revealed that difficulty in filling engineering positions may vary between businesses. According to industry stakeholders, smaller businesses may experience a greater challenge hiring for hard-to-fill positions because of financial constraints related to competitive salary incentives, extensive benefit packages, relocation expenses, etc. Apart from potential financial constraints of smaller businesses, the top two reasons provided most often by local stakeholders for why some engineering jobs may be hard-to-fill in Sarnia Lambton are:

- 1. Candidates may not possess the required experience levels.**

An Engineers Canada Report states that a core imbalance persists, nationally, between a large group of engineers (often post-secondary program graduates and immigrants) who are seeking employment in engineering, but may lack the skills and experience that recruiters are looking for.¹⁰ As mentioned previously, local stakeholders concur that a desire for specific levels of experience as well as specific types of related project work can result in those positions being more difficult to fill in the Sarnia Lambton area.

- 2. Lack of employment opportunities for spouses.**

When seeking to recruit candidates from outside of Sarnia Lambton, several local stakeholders indicate that their recruitment prospects often consider relocating for work to locations where their spouses also have good employment prospects. Sarnia Lambton, with a population of roughly 126,000, may be seen to have fewer and/or less diverse employment opportunities for spouses compared to larger urban centres like Toronto, Calgary and others, for example. In addition, several stakeholders mention that potential candidates are often looking to reside in areas where a university is located. Stakeholders indicate that candidates often cite this as an important consideration for their family.

⁹ Ibid.

¹⁰ Engineers Canada Report, “The Engineering Labour Market in Canada, Projections to 2020, Final Report, October 2012” p.10.

Possible Strategies to help recruit engineers in hard-to-fill positions in Sarnia Lambton:

Consultations held in 2015 revealed a willingness and desire among industry stakeholders to address the issue of hard-to-fill engineering positions. As a result of these consultations as well as research into industry best practices the following two strategies are recommended:

- **Creation of a collaborative community group to support the sector.**

Industry stakeholders have suggested that the formation of such a group might enable the creation of an industry specific campaign to attract applicants to hard-to-fill positions. For example, a targeted marketing initiative might outline the benefits of living in Sarnia Lambton as seen through the eyes of local engineers. Additionally, the group may be able to foster a network of community supports to assist with employment opportunities for spouses and discuss available community integration for candidates and any family that they might bring. Organizations thought to be of benefit to such a collaborative committee might include: Sarnia Lambton Economic Partnership, Tourism Sarnia Lambton, City of Sarnia, County of Lambton, Representatives from Engineering Businesses, Employment/Staffing organizations, YMCA Settlement & Newcomer Services, Sarnia Lambton Workforce Development Board, Workforce Planning West, Province of Ontario, among others.

- **Implementation of strategic employment practices on behalf of industry employers.**

- **Human Resource Practices:**

Research and local stakeholder feedback suggests that organizations might implement or expand upon human resource strategies in order to attempt to reduce situations where positions which are hard-to-fill arise. The Ontario Society of Professional Engineers suggests several strategies which may help organizations that are facing challenges with finding the right experience and training in candidates. These strategies include: a) training & developing their own “experienced” engineers; b) modifying their candidate screening processes; c) taking advantage of government training & bridging programs [e.g. Canada-Ontario Job Grant]¹¹; d) working collaboratively within each sector to define job requirements and source specific training.¹² Locally, stakeholders have expressed agreement with these strategies, especially aggressive succession planning strategies which may help alleviate the need to find external “experienced” applicants for positions later on.

- **Marketing and Branding**

Competition exists between companies for candidates who meet the experience and training requirements often wanted in hard-to-fill positions. Monetary incentives may play a role in a candidate’s choice of employer; however, prior research and discussions with local stakeholders

¹¹ Canada-Ontario Job Grant (COJG) <http://www.tcu.gov.on.ca/eng/eopg/cojg/>

¹² OSPE, Labour Market Seminar, Oct 2014. “Crisis in Canada’s Engineering Labour Market” http://www.ospe.on.ca/?page=pres_lib, p.11.

prove that candidates consider more than pay alone when selecting a company to work for. As such, it is essential that organizations explain to candidates why they should work for them instead of a competitor (i.e. company culture, flex schedules, intrinsic benefits, etc.).¹³ Additionally, local stakeholders agree that marketing and branding efforts may be more effective if the focus is not only on why a specific company is a great place to be employed – but, also on why Sarnia Lambton is a desirable community to live and work. By highlighting the benefits of life in the local community (e.g. lower cost of living than many urban centres, recreation and cultural highlights of the local area, community’s recent national recognition of research and innovation, etc.) both business and community will stand to gain.

Two local engineers have this to say about working in Sarnia Lambton:



I grew up in London, Ontario and completed my Bachelor of Engineering Science at the University of Western, Ontario. When I graduated from school, I applied for jobs across Ontario. I was offered a job in London and in Sarnia, but I chose to come to Sarnia. The pay was decent, and I was looking forward to gaining some experience. I worked for a small company, and it was really hard to meet people in Sarnia. I didn’t know anyone here, and I didn’t have family here, so many of my weekends were spent back home in London. As time went on, I started to get involved in activities and started meeting people. I accepted a new job at a bigger company in Sarnia, and was able to purchase a home here. I love my job and living in Sarnia.

I graduated from the University of Toronto with a Bachelor of Applied Science in Mechanical Engineering. I had a good friend from university that lived in Sarnia and I wanted to stay working in Ontario. The company that hired me offered me good benefits, salary and vacation time. I was able to make friends in Sarnia quite easily, when I joined sports teams. The people I work with are great people and I can relate to them both professionally and socially. My job presents me with interesting and challenging problems that we solve as a team. Overall, I am very happy with my job as an engineer in Sarnia Lambton!



¹³ Exact Source. Pen Blog. “The 5 Most Important Trends in Recruiting Engineers”. Posted by Sarah Walpert, Oct 30, 2013. <http://info.exactsource.com/blog/bid/322806/The-5-Most-Important-Trends-in-Recruiting-Engineers> retrieved May 1, 2015.

Concluding Remarks:

Engineers are a critical component of the Sarnia Lambton labour force. Approximately 70 local businesses employ engineers.

Local Labour Market data indicates that certain *types* of engineering positions and *those requiring intermediate to senior levels of experience* can be considered in demand and sometimes hard-to-fill positions in Sarnia Lambton. Labour Market challenges (including the fluctuations in petroleum and chemical industries on national scales, increasing demand for experience and sector knowledge, intensified value placed on soft skills and the introduction of internationally trained professionals) may contribute to recruitment challenges for some engineering positions.

The two reasons most cited by local stakeholders as contributing to some engineering positions being hard-to-fill locally include: candidates may not possess the required experience which employers are seeking and the availability of local employment prospects for a candidate's spouse.

Industry stakeholders indicate a desire to work collaboratively to address recruitment challenges. As well, there is consensus that adopting or enhancing strategic human resource practices in individual organizations and collectively in the community (e.g. succession planning and enriched marketing programs) may help to alleviate hard-to-fill position situations.

Based on what some local engineers have to say about living and working here, being an engineer in Sarnia Lambton is truly a "Discovery That Matters".

Please give us your feedback on this report by answering a 3 question survey.

Survey link: <https://www.surveymonkey.com/r/K2PFXDW>



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