



GROWING THE INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) WORKFORCE IN WINDSOR-ESSEX

This bulletin and the accompanying report examine the ICT workforce only, which is contained in the wider tech workforce. The Brookfield Institute defines ICT as, “Producing goods or services, or supplying technologies used to process, transmit, or receive information.”¹ As stated by the Brookfield Institute: “The tech sector has been traditionally defined as companies operating in the ICT industry. However, technology use and production is now ubiquitous across all sectors. The result is a much more encompassing tech sector, made up of a diverse collection of industries.”¹ The ICT workforce may work across industries.

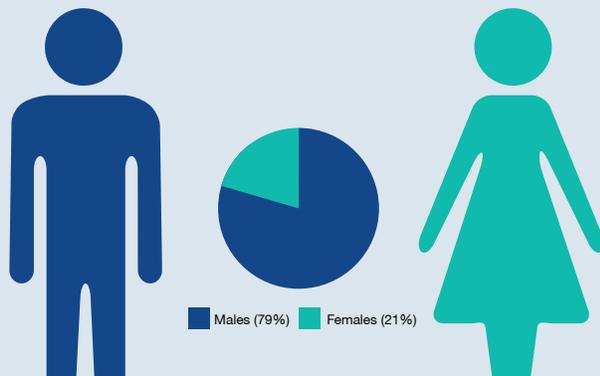
For our analysis, we included the following occupations from the National Occupational Classification (NOC) in our understanding of the ICT workforce:

- 1 **Computer and information systems managers (NOC 0213)**
- 2 **Computer engineers (NOC 2147)**
- 3 **Information systems analysts and consultants (NOC 2171)**
- 4 **Database analysts and database administrators (NOC 2172)**
- 5 **Software engineers and designers (NOC 2173)**
- 6 **Computer programmers and interactive media developers (NOC 2174)**
- 7 **Web designers and developers (NOC 2175)**
- 8 **Computer network technicians (NOC 2281)**
- 9 **User support technicians (NOC 2282)**
- 10 **Information systems testing technicians (NOC 2283)**

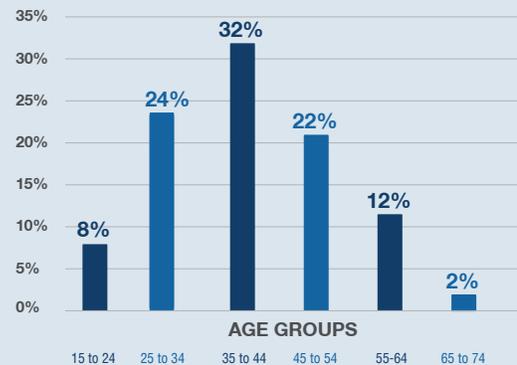
1 Lamb, Creig and Matthew Seddon. "The State of Canada's Tech Sector, 2016." Brookfield Institute. July 2016. <http://brookfieldinstitute.ca/wp-content/uploads/2016/07/The-State-of-Canadas-Tech-Sector-2016-V2.pdf>.

The ICT Workforce in Windsor-Essex

**3,085 PEOPLE
IN THE ICT LABOUR FORCE**

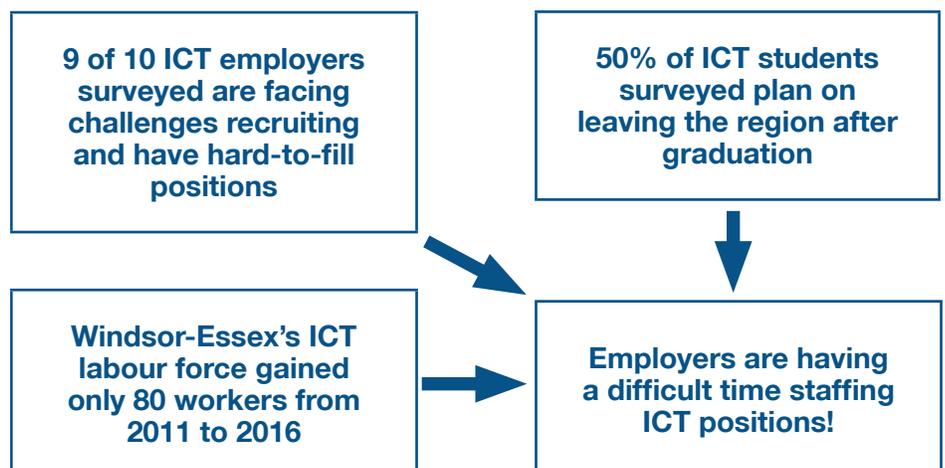


**AGE OF THE ICT WORKFORCE IN
WINDSOR-ESSEX**



Source: Statistics Canada, Census 2016.

Why do we need to attract and retain ICT talent?



Why does having an ICT workforce matter to Windsor-Essex?

ICT DRIVES ECONOMIC GROWTH

- In 2015, the ICT sector contributed \$71.6 billion to Canada's GDP ¹

ICT JOBS ARE GOOD JOBS, AND THEY'RE RELATIVELY SAFE FROM AUTOMATION

- ICT occupations pay a median of \$36.41/hour in Ontario and workers are generally happy with their jobs^{2,3}
- Computer occupations have, on average, only an 18% probability of automation ⁴

ICT DRIVES INNOVATION, WHICH IN TURN DRIVES COMPETITIVENESS

- The ICT sector spent \$4.5 billion on R&D in 2015 ¹
- In 2014, 57.1% of ICT businesses in Canada introduced a product innovation, 32.9% a process innovation, and 28.8% an organizational innovation ¹

What can we do to increase the availability, stability, and growth of the ICT workforce in Windsor-Essex?

8 CHALLENGES AND OPPORTUNITIES TO BUILD A BETTER ENVIRONMENT FOR ICT IN WINDSOR-ESSEX

1. **Challenge:** *Students believe their program is doing a good job preparing them for a future job in ICT, while employers do not.*

Opportunity: *Increased student-industry engagement.*

Local educational institutions can partner with ICT companies in Windsor-Essex to host engagement opportunities like tours, panels, and presentations geared toward students, so students and employers can better understand their respective expectations.

2. **Challenge:** *Young people find it difficult to secure entry-level employment.*

Opportunity: *Embrace experiential learning and eager recent graduates.*

Employers can benefit from helping students gain experience, making them more employable as graduates and can "test-drive" students for future employment.

Connect to experiential learning opportunities at our Experiential Learning Hub!
www.workforcewindsorressex.com/experiential-learning-hub

3. **Challenge:** *Students want to leave the region after graduation.*

Opportunity: *Increased reach-out by industry.*

When students were asked to name local ICT companies and their projects, students typically could only name one or two. If students were more aware of local opportunities, this could help increase retention.

Watch videos from local ICT employers and learn more about ICT on our website: <https://www.workforcewindsorressex.com/tech-sector>

¹ Lamb, Craig and Matthew Seddon. "The State of Canada's Tech Sector, 2016." Brookfield Institute. July 2016. <http://brookfieldinstitute.ca/wp-content/uploads/2016/07/The-State-of-Canadas-Tech-Sector-2016-V2.pdf>.

² Emsi Analyst, 2017.3.

³ "Survey Says IT Worker Stress Way Down, Pride Up." IT Business Edge. Accessed February 8, 2018. <https://www.itbusinessedge.com/slideshows/survey-says-it-worker-stress-way-down-pride-up.html>.

⁴ Frey, Carl Benedikt and Michael Osborne. "The Future of Employment." Oxford Martin Programme. <https://www.oxfordmartin.ox.ac.uk/downloads/academic/future-of-employment.pdf>.

4. Challenge: Windsor-Essex has a male-dominated ICT workforce.

Opportunity: Engage with females and challenge traditional workforce practices.

Help young women access opportunities to learn about ICT, whether by encouraging them to join the robotics team at their school or by supporting an event like Build a Dream. As an employer, make sure you are actively promoting a friendly workplace and providing women with opportunities to lead.

5. Challenge: Some ICT talent has already left the region, making it difficult for employers to fill positions.

Opportunity: Create an attraction campaign to bring talent back and attract others.

A website and attraction campaign highlighting the benefits of living and working in Windsor-Essex, such as the low cost of housing and the short commute times, could be used as a tool to increase the availability of an ICT workforce in Windsor-Essex.

6. Challenge: Paying a competitive wage, especially to intermediate and senior talent.

Opportunity: Educate local businesses to show them the value of ICT.

During ICT Leadership Table discussions held by Workforce WindsorEssex there was general agreement that many local businesses do not value ICT, and this results in work being done for a lower than average price for local businesses. This in turn affects employers' ability to pay their employees a competitive wage. The ICT Leadership Table suggested a guide be developed to help businesses choose ICT services effectively and realize the value to their business.

7. Challenge: Employers believe the skills taught in post-secondary institutions are outdated.

Opportunity: Hold curriculum consultations with employers on a biannual basis.

In the ever-changing ICT industry, curriculum consultations need to occur at least twice a year. While entire courses may not be able to be added, changed, or removed quickly, individual professors can incorporate new frameworks, languages, and tools into their classes to ensure students are at least familiar with the technology being used by employers.

8. Challenge: Employers find recent graduates lack soft skills and technical skills.

Opportunity: Employer-designed training for students and/or recent graduates to complement formal education.

Local employers have expressed interest in creating a talent accelerator for students and/or recent graduates. Participants could complete employer-designed assignments as well as undergo soft skills workshops, garnering them an employer-approved portfolio. Employers could then hire participants directly from the accelerator, knowing participants have the particular skills they are looking for. At the time of writing this report, Workforce WindsorEssex was preparing to host exploratory discussions related to this concept.

Read the whole report at
<https://www.workforcewindsoressex.com/tech-sector/>