



Understanding the landscape of Artificial Intelligence (AI) and Workforce Shifts in Sarnia Lambton County

A Community Report by the Sarnia Lambton Workforce Development Board (SLWDB)

Acknowledgments

The views expressed in this publication are the views of the Sarnia Lambton Workforce Development Board (SLWDB) and do not necessarily reflect those of the Province. The Government of Ontario and its agencies are in no way bound by any recommendations contained in this document.

Mission

SLWDB is a diverse and dedicated organization, committed to identifying needs and facilitating solutions to attract, train and retain a viable workforce through community partnerships.

Vision

Growing Sarnia Lambton’s workforce for tomorrow’s economy.

SLWDB leads Sarnia Lambton in its approach to workforce development and labour market planning. The team actively engages organizations and community partners in local labour market projects. SLWDB also conducts consultations with business owners throughout the year in order to identify needs and facilitate solutions to grow the local workforce.

Network

SLWDB is one of 26 local planning board areas that make up Workforce Planning Ontario that are funded to conduct and disseminate local labour market research and engage community stakeholders in a planning process that supports local solutions to local issues.



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Executive Summary

In 2025, after recognizing a need in the community, the Sarnia Lambton Workforce Development Board (SLWDB), undertook a project to understand the current landscape of Artificial Intelligence (AI) in the Sarnia Lambton community. The purpose of this initiative was to examine the current use of AI technologies and explore how these innovations may influence workforce demand, future skills requirements, and workplace practices.

AI adoption raises important questions regarding how work may change and what skills workers will require in the future. However, to date there has been limited exploration of how AI technologies are currently being used within the Sarnia Lambton region or how experts anticipate these technologies may affect local workforce dynamics. To address this knowledge gap, the project involved consultations with key stakeholders including AI specialists, technology professionals, and industry stakeholders to better understand regional adoption patterns and future workforce implications. The stakeholders discussed several key themes emerged including the types of AI technologies currently being implemented in organizations, the potential impacts on workforce demand and skill development, and the policies and practices needed to support responsible AI integration in workplace settings.

Overall, the findings of this project provide valuable insights into the emerging role of AI within the Sarnia Lambton economy. The report aims to support informed decision-making among employers, workforce development partners, educators, and policymakers as they prepare for the opportunities and challenges associated with the increasing adoption of AI in the workplace.

Introduction

Artificial Intelligence (AI) is rapidly becoming an integral part of modern workplaces, influencing how organizations operate, deliver services, and make strategic decisions. As digital technologies continue to evolve, businesses across sectors are exploring ways to integrate AI-driven tools to improve efficiency, support innovation, and enhance operational processes.

The Government of Ontario notes that AI can help modernize programs and services while supporting improved outcomes for residents and businesses. Research reported by Statistics Canada indicates that 31% of employees aged 18 to 64 in Canada are employed in occupations that may be highly exposed to AI, suggesting that a significant share of the workforce could experience changes in job tasks and skill requirements as AI technologies evolve.

As AI becomes more accessible, particularly for small and medium-sized businesses, organizations are increasingly considering how these technologies can be integrated into existing workflows. However, alongside the opportunities presented by AI adoption, employers and workforce stakeholders are also faced with questions related to workforce preparedness, skill development, and responsible implementation within workplace environments.

For the Sarnia Lambton community, limited information has been available regarding the extent to which AI technologies are currently being utilized by employers or how these innovations may influence future workforce requirements. Without localized insight, workforce development partners, training institutions, and employers may face difficulties in anticipating the skills and competencies needed to support evolving workplace demands.

To address this gap, the Sarnia Lambton Workforce Development Board (SLWDB) initiated a research project to explore the current landscape of AI adoption and to better understand the potential implications for workforce development. The initiative aimed to engage experts and practitioners in discussions about emerging technologies, workplace practices, and the preparedness of organizations and workers for technological change.

This report presents the outcomes of this initiative and highlights key themes related to AI adoption, workforce readiness, and emerging skill needs within the Sarnia Lambton region.



Methods

Information for this report was collected through in-depth, qualitative one-on-one, semi-structured consultations with nine key partners, 16 stakeholders, and a panel discussion featuring three panelists and members of the community. Participants were drawn from the AI sector and related fields, and meetings with the key stakeholders were held. Participants included business owners, industry leaders, educators, HR and finance professionals, and policymakers, ensuring diverse perspectives across industries and functions.

Each consultation was transcribed and reviewed to capture detailed insights. The data was then organized into broader categories to identify recurring patterns and key themes.

This structured process enabled the identification of common trends in AI adoption, sector-specific applications, workforce implications, and emerging challenges and opportunities. By synthesizing these perspectives, the report provides a well-rounded understanding of how AI is currently being utilized, how it is shaping workforce dynamics within the region, and what considerations are necessary to support responsible and sustainable AI integration in the region.

Results

Theme 1: Human-in-the-Loop in AI

Through our research and expert consultations, we found that at present, we are operating in the era of what is known as narrow AI. This form of AI is designed to perform specific, defined tasks rather than possessing general intelligence or human-like reasoning. Narrow AI involves tasks such as generating text, analyzing data, recognizing patterns, or answering questions. However, it does not think, reason independently, or make autonomous decisions in the way humans do. Humans are needed to generate a thoughtful prompt and context, and humans are required to review and assess the quality of the results.

The Sarnia Lambton's use of AI technology includes the use of ChatGPT (Chat Generative Pre-Trained Transformer) and Gemini which are widely used for administrative tasks such as generating natural language, adapting the tone and format of writing, and research support and problem solving.

According to our stakeholders, AI should therefore be understood as a powerful assistant rather than a decision-maker. While it can increase efficiency, enhance creativity, and improve consistency, final authority and accountability must remain with humans. Keeping a human in the loop is essential.

When used responsibly with continuous human oversight, AI becomes a collaborative tool that amplifies human capability while remaining firmly under human control.



Theme 3: Transforming and Upskilling the Workforce for the AI Era

AI adoption in the Sarnia Lambton region is primarily focused on automating repetitive and time-consuming tasks, gradually reshaping workforce demands and the skills required across occupations. Insights from consultations with industry experts, business leaders, and workforce stakeholders indicate that most organizations remain in the early stages of adoption, while increasingly recognizing both the opportunities and challenges AI presents. These include the need for integrated upskilling strategies, human-centric skill development, and more intentional workforce planning to support employees in AI-enhanced environments.

As AI continues to evolve, it is expected to significantly transform job roles, particularly those involving routine or predictable tasks, which are more susceptible to automation. At the same time, roles requiring practical, hands-on expertise - such as those in the skilled trades - are expected to remain relatively unaffected. In this shifting landscape, individuals who develop digital literacy, AI-related competencies, and transferable skills such as creative thinking, problem solving, adaptability, and collaboration will be better positioned to succeed.

To effectively prepare the workforce for these changes, organizations must take a strategic and proactive approach. This includes implementing integrated upskilling initiatives that blend technical AI knowledge with essential human-centric competencies such as critical thinking, communication, and ethical reasoning. Assessing workforce readiness through tools like skills audits, surveys, and stakeholder consultations is equally important to identify gaps and prioritize training efforts. Collaborations with local educational institutions and training providers can further enhance access to certifications, workshops, and practical learning opportunities that build well-rounded capabilities. Equally critical is fostering a culture of continuous learning, where employees are encouraged to engage in mentorship, cross-functional training, and ongoing professional development.

Overall, AI is transforming the Sarnia Lambton workforce by driving efficiency, elevating the importance of digital and human skills, and creating new opportunities for more strategic and creative work. This transition underscores the growing need for coordinated reskilling and upskilling efforts, supported by a balanced approach that integrates technological advancement with human-centered workforce development.



Conclusion

The adoption of AI across the Sarnia Lambton County represents both a transformative opportunity and a strategic challenge for the local workforce. AI has the potential to enhance productivity, streamline operations, foster innovation, and improve decision-making, but it also presents challenges, including workforce displacement, evolving skill requirements, ethical dilemmas, and the risk of inequitable adoption. Recognizing that AI has both positive and negative aspects, it is clear that organizations and workforce stakeholders must adopt strategic plans to leverage AI effectively while mitigating potential risks.

Our research highlights that AI adoption is uneven, with many organizations in the early stages of deployment and workforce readiness. Narrow AI technologies, while versatile, depend on human direction, contextual understanding, and ethical oversight. The rapid integration of AI is reshaping job roles, creating a dual demand for technical competencies - such as AI literacy, data analysis, and digital skills - and human-centric skills, including critical thinking, creativity, collaboration, adaptability, and ethical reasoning. These capabilities are essential for employees to interpret AI outputs, make informed decisions, and contribute meaningfully to organizational objectives.

To address these opportunities and challenges, workforce development is required to prioritize structured upskilling, reskilling, and continuous learning. Programs that integrate technical AI training with human-centric skill development will empower employees to navigate technological shifts, enhance productivity, and remain resilient in evolving roles. Likewise, establishing ethical, transparent, and inclusive AI governance frameworks ensures adoption is responsible, sustainable, and aligned with organizational goals and societal expectations.

Ultimately, the insights from this initiative emphasize a holistic approach to AI integration is the one that balances technological innovation with human skills development, ethical oversight, and workforce preparedness.

The Sarnia Lambton experience demonstrates that the future of work is collaborative, human-centered, and technologically empowered - an ecosystem where AI amplifies human potential, and where strategic planning, skills development, and responsible governance ensure sustainable growth, innovation, and resilience across the community.



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We welcome feedback on this report

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