

Unlock the Potential of Al in Municipal Government

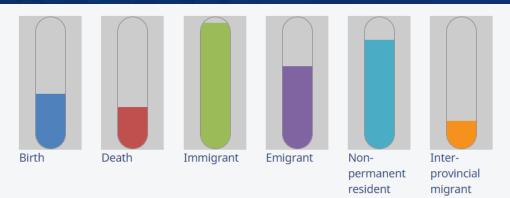
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Info-Tech's products and services combine actionable insight and relevant advice
with ready-to-use tools and templates that cover the full spectrum of IT concerns.
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40,017,687

Population change since midnight



Current time is 6:28:17 AM EDT Thursday, June 22, 2023



Population of provinces and territories (real-time model)

	Provinces and territories	Population
×	Newfoundland and Labrador	535,035
<u> </u>	Prince Edward Island	178,179
18	Nova Scotia	1,050,317
	New Brunswick	835,426
+ +	Quebec	8,843,642
	Ontario	15,587,713
S	Manitoba	1,439,555
■ *	Saskatchewan	1,223,919
#	Alberta	4,734,827
	British Columbia	5,458,873
***	Yukon	44,554
**	Northwest Territories	44,718
*	Nunavut	40,930

Note: The population values in this table are modelled in real time.



► Related products and notes

Unlock the Potential of Al in Municipal Government

"By far, the greatest danger of Artificial Intelligence is that people conclude too early that they understand it."

—Eliezer Yudkowsky

ChatGPT and Generative AI are the words on everyone's lips in municipal government across Canada today. Join ITRG for a journey beyond the excitement and fear wrapped around discussions about AI and explore:

2 3

The evolution and Practical use cases The benefits capabilities of AI for municipal and challenges solutions today, government in Canada

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Al roadmap

The practical Barriers to steps required implementing Al for a successful solutions

In conversation with municipal IT leaders from across the country at MISA Canada's 2023 Executive Summit in Montreal!

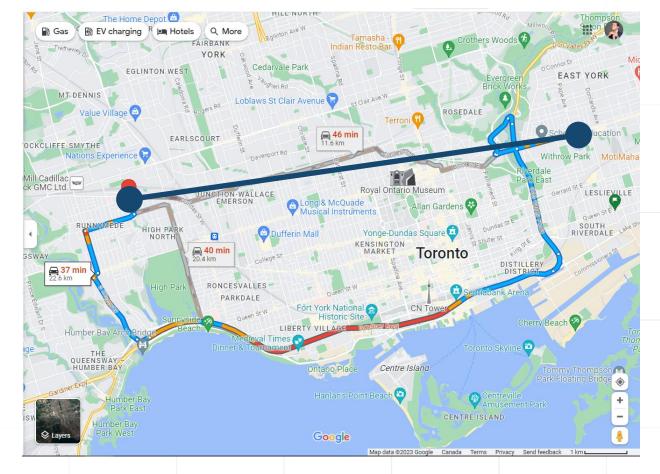


Five years ago, Al solutions were a curiosity in most cases.

Today AI materially impacts every role in every industry. Public sector leaders must develop a deep understanding of AI to ensure they reap the benefits for the community without experiencing the unintended consequences that often follow.

Cole CioranManaging Partner,
Canadian Public Sector

When is the shortest distance between two points not a straight line?



Are you ready for Generative Al?



Artificial Intelligence (AI)

A field of computer science that focuses on building systems to imitate human behaviour. Not all AI systems have learning behaviour; many systems operate on preset rules, such as customer service chatbots.



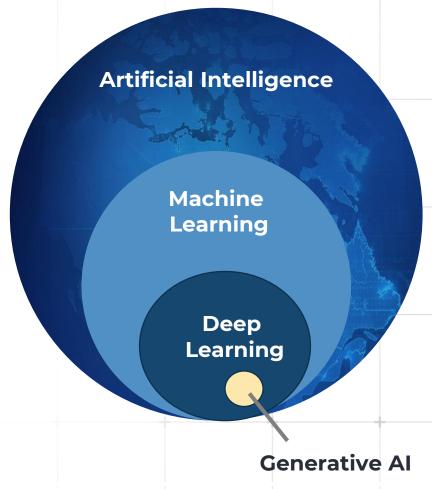
Machine Learning (ML)

An approach to implementing AI, whereby the AI system is instructed to search for patterns in a dataset and then make predictions based on that set. In this way, the system 'learns' to provide accurate content over time (think of Google's search recommendations).



Generative AI (GenAI)

A form of ML, whereby, in response to prompts, a GenAl platform can generate new outputs based on the data it has been trained on. Depending on its foundational model, a GenAl platform will provide different modalities and thereby use case applications.



Info-Tech Insight

Be wary that many vendors have jumped on "GenAl" as the latest marketing buzzword. When vendors proclaim to offer GenAl functionality, pin down what exactly is 'generative' about it. The solution must be able to generate new outputs – not merely predictive outputs.

The evolution of AI is accelerating.

GenAI's history is multifaceted, with disparate events crystallizing into the present day.

1990s

2010-2015

2015-2018

2019-2020

2022









Machine Learning

The 1990s shifted from how AI systems were previously built. Instead of specifying how to solve a task, a learning algorithm would induce it based on inputted data.



Studying neural networks gained traction in ML, titled 'deep learning'. Fueled by larger datasets and more computation (from availability of GPUs). Shift toward homogenization: the same deep neural network architecture could have multiple applications.

First-wave of Foundational Models

Self-supervised learning based on autoregressive language modelling becomes popular, learning to first iterations of GPT, ELMo, and ULMFiT

Second-wave of Foundational Models

Embracing the Transformer architecture, significant developments are made with BERT, GPT-2, RoBERTa, and BART. Self-supervised learning with language models becomes a substrate of NLP, with BERT becoming the norm.

GenAl Enters Public Vernacular

OpenAl's public release of its chat-based interface for GPT 3.5 attracts 100 million users over 2 months – the fastest adoption of a GenAl platform (so far!).

(Bommasani et al. 2022)

Five Canadian Municipal Al Success Stories?



What are some Al success stories from Canadian municipalities?



From https://chat.openai.com/>

Large Language Models Hallucinate

Leaders must be prepared to check and double check every piece of information provided by ChatGPT4 and other large language models to ensure that the information they provide is in precise and accurate.

Toronto

implemented Al-powered solution that uses of predictive analytics to optimize waste collection routes. By analyzing historical data and real-time information on waste levels, the city improved the efficiency of waste collection, reducing costs and minimizing environmental impact.

Edmonton

implemented a smart traffic signal system called the ATCS, which uses AI algorithms to optimize signal timings based on real-time traffic conditions. The system has improved traffic flow, reduced congestion, and enhanced the overall efficiency of the transportation network.

Montreal

leveraged AI to improve snow removal operations. By analyzing weather forecasts, historical data, and road conditions, the city's snow removal system, known as "Florence," optimizes snowplow routes, predicts snow accumulation, and manages resources more effectively.

Calgary

has implemented an Alpowered chatbot named "Ask Bob" to enhance citizen services and engagement. Ask Bob provides residents with instant responses to common inquiries, guides them through online services, and assists with information on various municipal topics.

Brampton

Implemented AI-based predictive analytics to optimize energy consumption in its facilities. By analyzing data on energy usage, weather conditions, and building performance, the city's energy management system predicts energy demands and optimizes energy distribution.

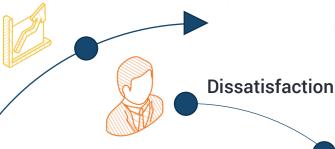
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ITRG Exponential Technology Life Cycle

Technology does not exist in a simple linear lifecycle. IT Leaders must understand how your stakeholders perceive its place in the organization and the technology life cycle and lead continuous transformation and exponential rewards.

Exponential Reward

Lead adoption to drive exponential rewards from the technology



evangelists to overcome resistance and skepticism to build excitement.



People are trapped between dissatisfaction and an unhealthy attachment to existing capabilities, processes, and technology driving exponential demand on IT.



Expand beyond implementing technology to create innovative autonomization of the organization's *people and capabilities*

Enlightenment

Create enlightenment
around outcomes to
drive innovation and
adoption



Engage *seasoned professionals* to bridge the Chasm and build a foundation for innovation and autonomization for the organization



Excitement

Resistance

Leverage an *experienced mentor* to advise you on how to overcome unknowable risks and emergent challenges.



Chasm





Discussion: Where are you on the ETLC?

Up to 5 minutes

- 1. Vote on the stage in the ETLC where you feel you are today when you think about or work with Al solutions. Feel free to add something if appropriate!
- Take a moment to discuss what makes you feel that way with the other people at your table.
- 3. Share examples!

Browse to join.groupmap.com and enter invite code

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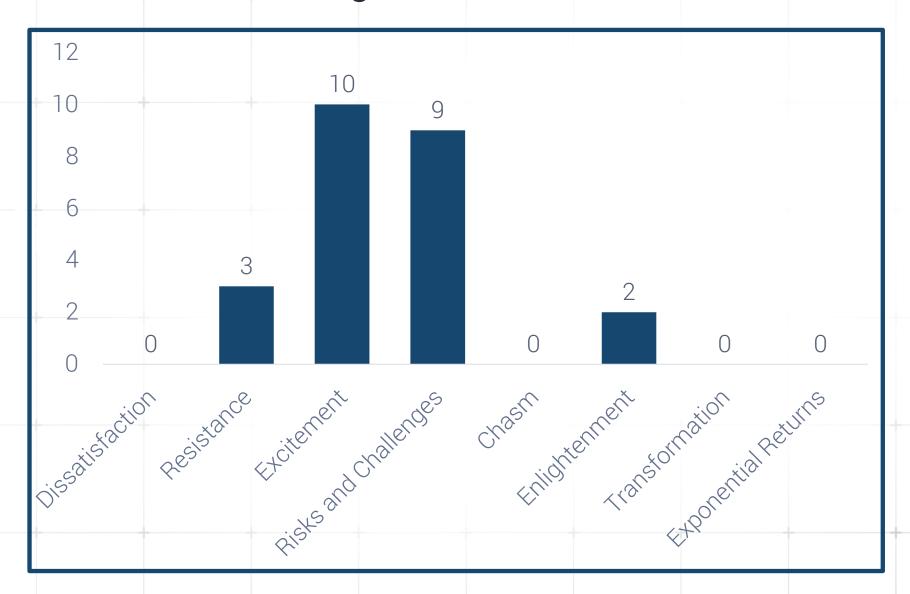


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Output

Model of where municipalities across Canada are at in the ETLC!

Where are you on the ETLC?



Based on 24 responses from Canadian municipal IT leaders at the MISA Executive Summit on June 22, 2023 in Montreal. Participants reported that they also found that their experience of Al does not change in a linear fashion, and they may move back and forth in the cycle based the current events and experiences.

There are many types of GenAl solutions

Text- based outputs are just one of many outputs GenAl solutions can provide.

Scientific data

- Generating ideas for new drug candidates,
- Clinical trial builds,
- Data augmentation etc.





Video

- Generates video-based outputs.
- Applications: marketing and sales, advertisement creation.

Language

- Typically based on large language models
- Outputs include code, genetic sequencing, creative writing, and translation.



- Generate visuals from user prompts
- Includes flexibility to modify and edit the aesthetic of pictures
- 3D modelling
- Graphs
- Realistic images for AR/VR.

Audio

- Outputs include music production
- Audio snippets
- Audio analysis based on certain requests (e.g., sentiment analysis for a customer service call).

Synthetic Data

- Artificially created data to augment existing datasets,
- Utilized to train ML models
- Used to enhance reporting and analytics.



GenAl

types &

uses

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ChatGPT and Large Language Models



IR

Write a haiku about large language models



Here's a haiku about large language models:

Machine learning might,

Models speaking humanly right,

World's words in their sight.

What is ChatGPT?

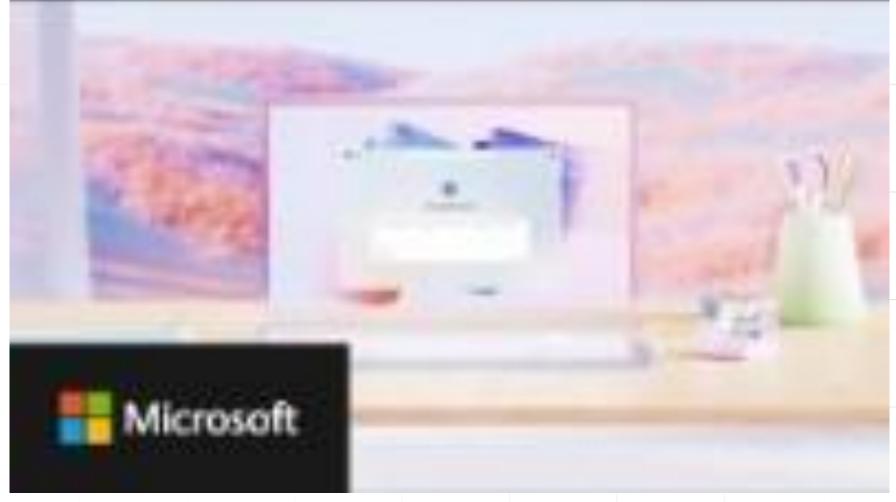
A chatbot application built on OpenAl's implementation of a Large Language Model (LLM) GPT-3.5. LLMs:

- Are a model of the language
- Trained on a large number of documents
- Construct a model of the language which allows the algorithm to generate similar text
- Produce a string of words by predicting which word would best follow the previous, in the context of the words before it.

Generative AI will become a part of every platform we use and an integral part of our working lives and provide:

- Customer service and support
- Generate drafts or outlines of emails, papers, presentations, and more
- Suggest new ideas for product development
- Summarize documents
- Intelligent search (i.e. organizing knowledge base)
- Write code in multiple programming languages
- Search Engine Optimization
- Virtual assistant, brainstorm ideas
- Personalized recommendations
- Translation

Are you ready for an Al Copilot?



Microsoft 365 Copilot integrates GPT-4 with Office 365 the 0365 suite of products including everyday tools such as Teams, Chat, Outlook, Excel, Word, PowerPoint

Autodesk Technology Center: Toronto

Generative Design Example

First Al-designed Office Layout

- 3 floors, 60,000 square feet
- Designers consulted with 250 employees about their office preferences (distance between tables, outside views, daylight etc)
- Generative AI created an optimal layout to:
- Meet goals and comply with constraints
- Maximize construction and budget efficiency
- Model generated over 10,000 iterations of the design in a few days.

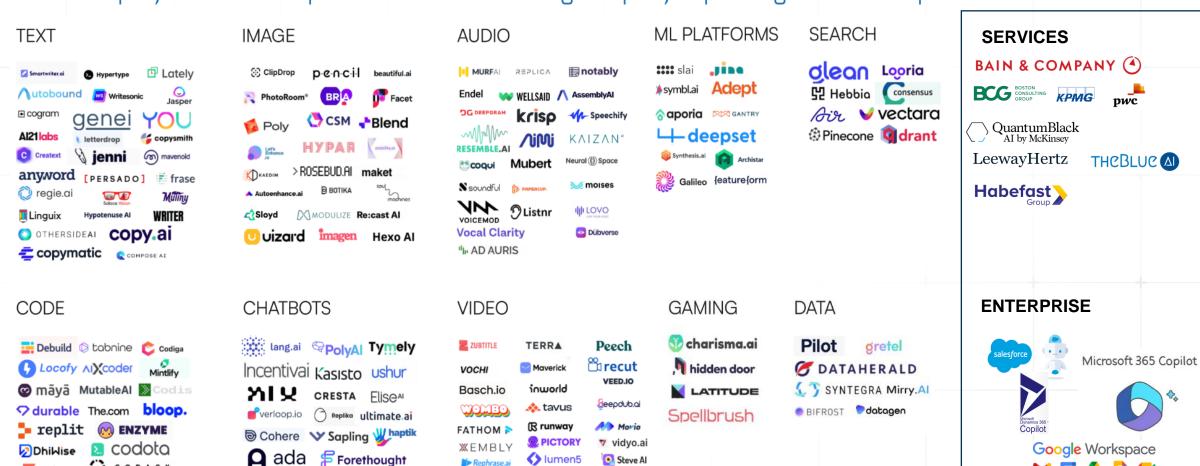




Source: Consulting-Specifying Engineer Magazine

The GenAl ecosystem is exploding

New players and enterprise vendors are driving a rapidly expanding market for products and services



&eepd∪b.ai

METAPHYSIC POLION

🔼 YEPIC•

Colossyan 🗈

Source: Antler

CODACY

Metabob

OBSERVE·AI X○Xind

Balto M Certainly.

and many more to come...

GenAl is transforming all industries

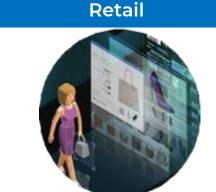








Generative AI creates the opportunity for municipal ggovernments to transform the community's experience with government services and magnify the efficiency and effectiveness of how they are delivered.









Flashback – Building the Smartest Cities

The people who live, work, and play in our cities have come to expect a robust ecosystem of digital services



Source: Citizen Experience in Canada

Al-Augmented Government

Cut costs, free up time for critical tasks, and deliver better and less expensive services

Low investment

- Speeds up tasks approximately 20%
- Save 100's of millions of dollars
- Reallocate tens of millions of hours

84% Expect value for their money

- Speeds up tasks approximately 200%
- Save 1000's of millions of dollars
- Reallocate hundreds of millions of hours

High Investment

Al Use Cases for Municipal Government

Plan Construction

Select Books

Moderate Electoral Content

Manage Energy Use

Detect Crime

Manage Waste Disposal Plan Housing and Infrastructure

Predict Health Crises

Engage Citizens

Predict Disasters

Manage Traffic Flow Predict Venue Occupancy Deliver Service Support

Automate Transcription

Automate Translation

Discussion: What use cases are you working on?

Up to 5 minutes

- Vote on the use cases
 you are exploring or
 implementing. Feel free
 to add more!
- Take a moment to share what makes you feel that way with the other people at your table.
- 3. Share examples!

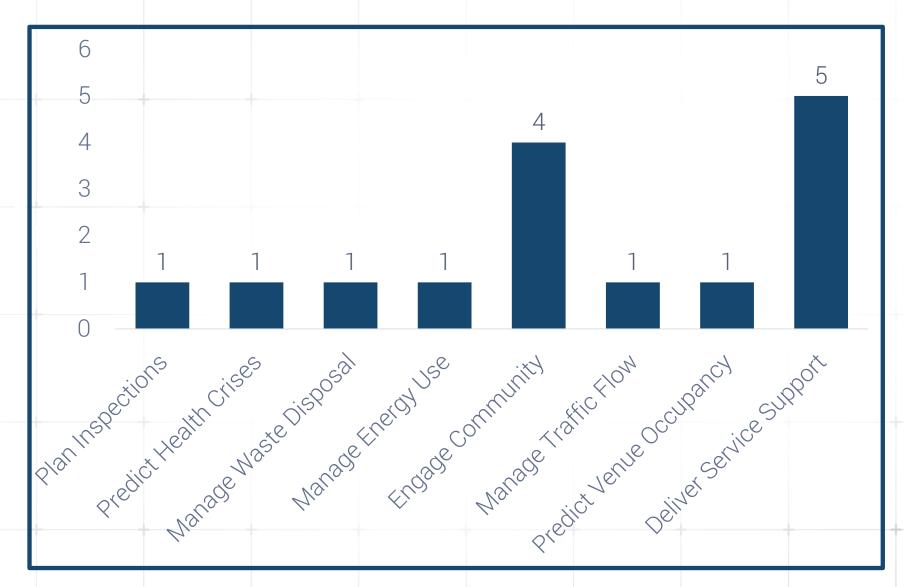
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Output Active Use Cases across Canada! INFO-TECH RESEARCH GROUP /// 20

What use cases are you working on?



Based on 24 Canadian municipal IT leaders at the MISA Executive Summit on June 22, 2023 in Montreal. Not all municipalities participating are currently actively working on an AI use case.

Policy ensures balance between the benefits and challenges of AI in municipal government

Structure, Politics, and Policy

Go hand-in-hand with the adoption of Al in municipal government. Move beyond the benefits to ensure your municipality works with the community to build a strategy that ensures the responsible implementation of solutions government by clear and concise policies.

Autonomation

Al can act as a force multiplier, augmenting government staff (e.g., cybersecurity) and improving accessibility, while collaboration is key for leveraging shared Al infrastructures.

Enhancement

Generative AI has significant potential to revolutionize government operations, enhancing citizen services, internal efficiency, data analysis, and creativity.

Strategy

Al strategies must consider fairness, reliability, accountability, privacy, inclusiveness, and transparency.

Responsibility

Responsible approaches to AI are crucial, requiring the adoption of strategies, policies, training, and accountability in public sector organizations.

Policy

Public sector organizations should actively engage with generative AI technologies and incorporate responsible AI principles.

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Build Your Generative Al Roadmap

The process of adopting Generative AI to improve business outcomes.

Generative AI presents organizations unprecedented opportunities as well as new risks to consider.

Regardless of the AI initiatives selected, the critical success factor will be the establishment and enforcement of responsible AI guiding principles.



Align Al & Organizational Strategy

Spend time up front building a unified strategy by aligning organizational strategies with the AI strategy.

Al Strategy Unified Strategy
Organizational Strategy

2 Establish Responsible Al Principles



Assess Al Maturity

Principle Based

These maturity levels focus more on human-based values to address consumer and governmental concern

Technology Centric

These maturity levels focus more on addressing the technical challenges of developing a functional AI application.

Time

Prioritize
Opportunities

Prioritize Candidate Opportunities



Align Candidate
Opportunities

- Does it align with the business?
- Does it align with responsible Al guiding principles and policies?
- Do we have the resources to execute?

Develop Policies

- Adhere to local laws & regulations
- Align with the organization's business objectives.
- Operationalize responsible Al guiding principles
- Adopt applications approved by the CIO/CISO.



Transformation 💿

Proliferation

Incorporation

Optimization o

Exploration

Build Your Roadmap

Value	Q1	Q2	Q3	Q4
Mitigate Risk Improve or introduce business processes to reduce risk,	•			
Improve Operational Excellence Improve or replace business processes to reduce costs:		•	•	
Accelerate Innovation Improve or replace business processes to improve time to market or to drive innovation.		•	•	
Increase Financial Contribution Improve or introduce business processes to increase financial contribution.				•

GenAl checklist for municipal leaders

Government leaders need to ensure that AI solutions will survive the rigours of municipal life.

☐ Economic Impact	Assess and anticipate the economic implications of generative AI, implement policies to facilitate its adoption, and minimize negative effects on employment and inequality.
□ Competitiveness	Foster research and innovation in generative AI to enhance their countries' competitiveness in the global landscape.
☐ Employment Disruption	Develop policies to support workforce transitions and mitigate job disruptions caused by generative AI in creative industries.
☐ Consumer Protection	Enforce regulations to protect consumers from deceptive practices related to generative AI and ensure transparency in its use.
Misinformation and Security	Address the risks of misinformation, disinformation, and cybersecurity threats associated with generative AI through policies and regulations.
☐ Privacy and Data Protection	Establish regulations to safeguard privacy and protect personal data used in generative AI systems.
☐ Legal Liability and Copyright	Consider legal frameworks to determine liability for generative AI-generated content and address intellectual property and copyright issues.
☐ Ethical Considerations	Address ethical concerns related to privacy, bias, fairness, and malicious use of
□ Data Governance	generative AI. Establish clear rules for data governance, including privacy, consent, and data sharing, to ensure responsible and ethical use of data in generative Al systems.

Risks and challenges must be overcome to realize the benefits of Al



Quality

- Accuracy & Precision May generate inaccurate and/or false information, still requiring human verification.
- Hallucinations Responses
 generated that are not based
 on observation
- Misinformation New ways of generating unprovable news that are difficult to detect, difficult to prevent



Social

- Bias Trained on data from unknown and unverifiable sources, which may have implicit biases.
- Transparency LLMs use both supervised and unsupervised learning, its ability to explain how it arrived at a decision may be limited
- Job Augmentation vs.
 Displacement Debate will create significant conflict



Structural

- Infrastructure Required -Large investments required for compute and data
- Copyright Legal framework is evolving and legislation is being developed in a reactive model
- Big Tech Reputation –
 Perceived as poor at self governance with conflicts of
 interest with governments

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Discussion: What barriers have you encountered?

Up to 5 minutes

- Vote on barriers to implementing AI that you have encountered. Feel free to add more!
- Take a moment to share
 what makes you feel that
 way with the other people
 at your table.
- 3. Share examples!

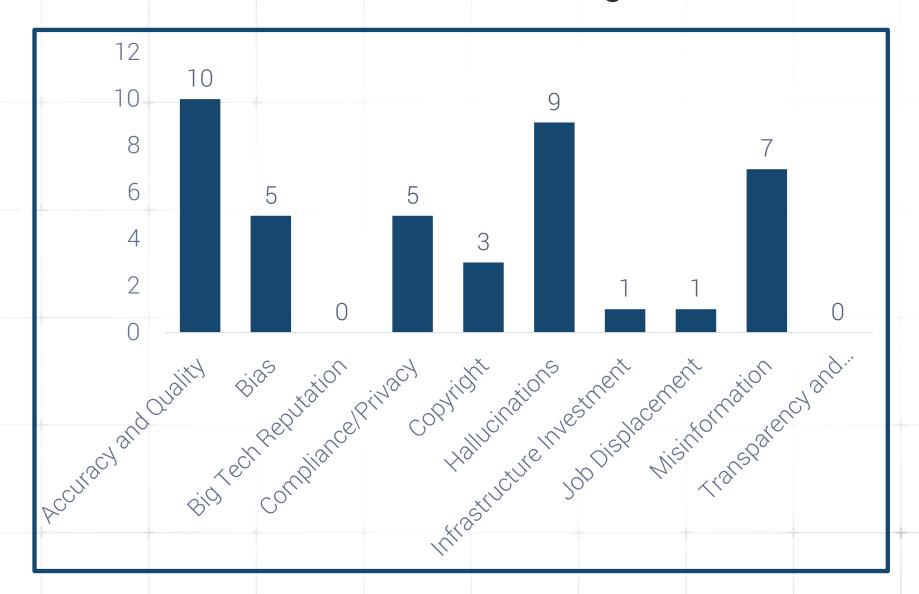
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Output Shared map of barriers encountered by municipal leaders from across Canada!

What barriers have you encountered?



Based on 24 responses from Canadian municipal IT leaders at the MISA Executive Summit on June 22, 2023 in Montreal. One participant made an impassioned call to action for Canadian municipalities to embrace Al immediately or run the risk of being left behind by other countries that are not letting these challenges hold them back.



Boston isn't afraid of Generative Al

The City of Boston, MA has adopted a pioneering policy encouraging the use of generative AI by public servants, serving as a blueprint for other governments.

- Boston's policy focuses on responsible experimentation and aims to improve government effectiveness and efficiency through generative AI.
- Boston sees generative AI as a coding aid and a tool for gaining different perspectives. The policy outlines scenarios where generative AI can be used, such as drafting memos and translating complex government language.
- *Personal responsibility is emphasized*, with public servants urged to proofread Al-generated work for accuracy.
- Boston's policy sets a new precedent by *shifting the narrative from fear to proactive adoption,* inspiring other governments to embrace generative AI's transformative opportunities.

Unlock the Potential of Al in Municipal Government

"By far, the greatest danger of Artificial Intelligence is that people conclude too early that they understand it."

—Eliezer Yudkowsky

Thank you for joining ITRG for a journey beyond the excitement and fear wrapped around discussions about AI to explore: ChatGPT and Generative AI and how they can make a difference in municipal government across Canada!

2

The evolution and capabilities of Al solutions today,

Practical use cases for municipal government in Canada

The benefits and challenges of AI solutions

/ +

The practical steps required for a successful Al roadmap

Barriers to implementing Al solutions

We look forward to continuing the conversation with municipal IT leaders from across the country in our upcoming webinars for MISA Canada!



Provides practical, actionable research and advice that guides Business and Technology leaders on how to accelerate delivery of their key initiatives.











Custom **Key Initiative** Plans

The Canadian Public Sector team builds and maintains a custom, evergreen plan for how to leverage our research and advisory services to accelerate delivery of your key initiatives.

In-Depth Research Centers

Provide our members with a *one stop for all* of the Blueprints related to key IT practice areas and topics to help you go even deeper on initiatives that matter to you.

Comprehensive, Connected Blueprints

Leverage unlimited independent and analyst-quided access to our detailed, stepby-step guides and production-ready templates that accelerate delivery of your key initiatives.

Actionable Diagnosticdriven Insights

Our diagnostics team produces industry benchmark backed assessments of your organization to help you to target the right initiatives and assess improvements over time.

Consulting Quality **Deliverables**

We do more than talk. we roll up our sleeves and create consulting quality deliverables for all our advisory, executive, concierge, workshops, and consulting services.



Info-Tech Research Group
Recognized Among Top 1% of
Canada's Global Private Companies,
Named to Team True North 2022 List
by Communitech





INFO~TECH



Info-Tech Research Group Named One of the Top 5 Technology Services Research firms of 2022 by Net(net)Web.

The Info-Tech Advantage:

Founded and headquartered in London, Ontario, ITRG and our McLean and Co HR Research and Advisory and Software Reviews divisions have a 25-year legacy of providing relevant and actionable research to Canadian information technology, marketing, and human resources leaders.

We employ over 1,400 people across Canada and around the world and have built a global footprint with offices in the United States, Europe, and Asia-Pacific. ITRG partners closely with Business and IT leaders and their teams to provide everything they need, from actionable tools to practical analyst guidance, ensuring they deliver measurable results for their organizations.

Our dedicated Canadian Public Sector team ensures our members are guided by IT executives with extensive experience serving the needs of Canadian public sector organizations and their constituents.

#ITRG Provides
practical, actionable
research and advice
that guides
Business and
Technology leaders
on how to
accelerate delivery
of exceptional value
through technology.

Key CIO/CTO Initiatives Supported by ITRG's Canadian Public Sector Team

Canadian IT Leaders choose Info-Tech as their partner for their most critical programs



IMTD and OCIO Sector
IT Transformation and next
generation EPM and
APM governance programs for
Canada's Digital Ambition



CIO
IT Transformation and
Data Modernization



CIO
Data Strategy,
Governance, and
Analytics



Enterprise Technology
Strategy Division – CTO
Digital Identity Strategy and
Roadmap and Next
Generation IT Strategy



CIO and CHRO
Core systems
(including ERP and
HRIS) Modernization



*CIO*Digital and IT
Transformation



CIO
Succession Planning and
PPM Modernization



Ministry of Public and
Business Service Delivery
GSIC - CIO
Product Delivery and Agile
Transformation

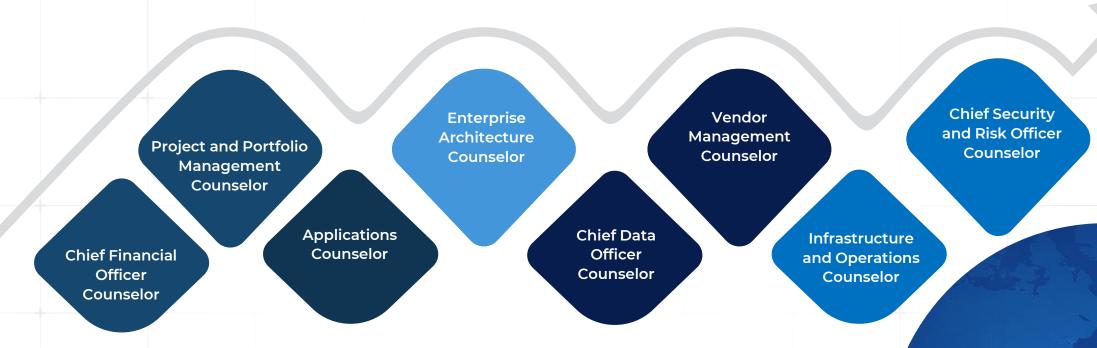


CIO
Platform Operations, Data
Management, and Adaptive
Digital Citizen Services

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Leverage an ITRG Technical Counselor for additional domain expertise

Technical Counselors extend the capabilities of our Canadian Public Sector Executive Services team. Every counselor is a seasoned veteran with practical experience in one of the following domains.



Technical Counselors provide more than just advice. They roll up their sleeves and create work products in each session that accelerate delivery of a key initiative related to their domain.

- Build your practice end to end with a trusted partner
- Consistent technical oversight
- A consistent journey bridging Info-Tech experiences
- A deliverable from each experience
- Drafting in other supporting analysts where required

Defining the Local government value stream

- Local governments act as the stewards of the regional land and environment that are within its boundaries.
- Regional government bodies are responsible for ensuring that the natural environment is protected and sustained for future citizens in the form of parks and public land.

- Health concerns are managed by a local government through specialized campaigns and clinics.
- There are also emergency services provided by the local authority to protect and react to health and safety concerns including police and firefighting services.

- Local governments ensure that infrastructure is built, maintained, and effective in meeting the needs of constituents.
- This can include electricity, water, sustainable energy sources, waste collection, and transit. Local transportation is also managed by this level of government.

Value Streams

Sustain Land, Property, and the Environment

Facilitate Civic Engagement Protect Local Health and Safety

Grow the Economy

Provide Regional Infrastructure

- Local government engages with constituents to maintain a high quality of life through art, culture, and education.
- Civic engagement includes education, cultural programs, and civic actions that involve the governing and the governed.

- Economic growth is a cornerstone of a strong local government.
- Growth comes from flourishing industries, entrepreneurial success, high levels of employment, and income from tourism.

Leverage your Local government capability maps

Business capability map defined:

In business architecture, the primary view of an organization is known as a business capability map.

A business capability defines what a business does to enable value creation, rather than how. Business capabilities:

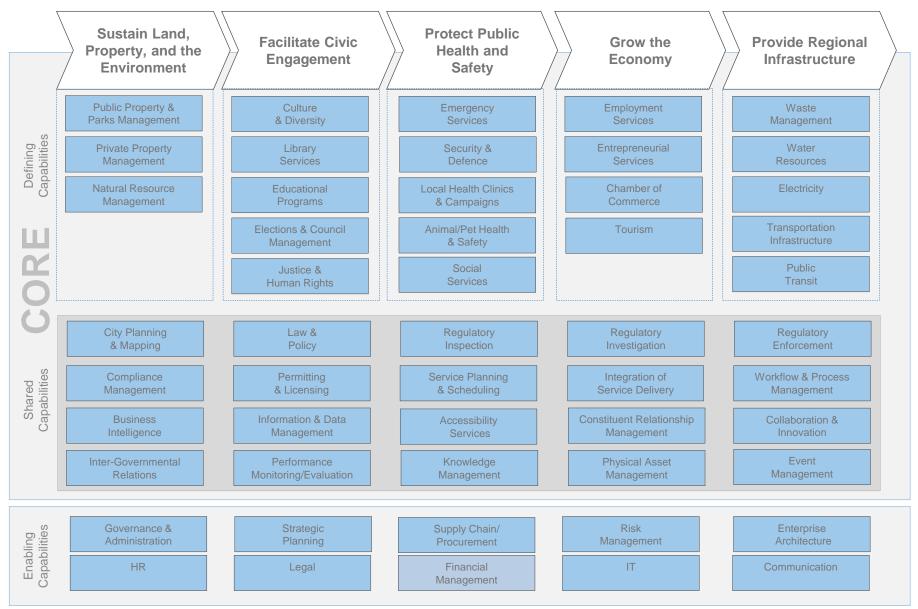
- Represent stable business functions.
- Are unique and independent of each other.
- Typically will have a defined business outcome.

A business capability map provides details that help the business architecture practitioner direct attention to a specific area of the business for further assessment.

Legend



customer facing.



Use Cases: Local Government

Use cases

1. Plan Construction	 Using a deep learning model to analyze vision and speech to automatically tag construction data and proactively suggest safety measures for the client. Using ML in the form of generative design to identify and mitigate select the best fit model in the planning and design phase itself
2. Select Books	 Al can also help librarians provide personalized and relevant recommendations to their patrons, based on their preferences, behavior, and context of the user. Al can also assist librarians in answering complex and diverse queries, using natural language processing and semantic analysis.
3. Moderate Electoral Content	 In the context of elections, AI systems are also increasingly being used as part of risk-management strategies for curating content in social networks. This helps in removing misinformation, hate speech, and deepfakes spread on social media during elections.
4. Detect Crime	Al can analyze historical data to identify patterns and trends, and then use these patterns to make predictions about the future
5. Manage Waste Disposal	Al algorithms can analyze data on waste collection to optimize routes and schedules, reducing fuel consumption and increasing efficiency.
6. Manage Energy Use	Al could be used to manage energy usage in public buildings, optimizing heating and cooling systems to reduce energy waste.

Use Cases: Local Government

Use cases

7. Plan Housing and Infrastructure	• Al can analyze data on population growth to predict future demand for housing or transportation, and can plan infrastructure developments more effectively
8. Predict Health Crises	Al algorithms can analyze data on disease outbreaks to predict future health crises, allowing local governments to take proactive measures.
9. Engage Citizen	By analyzing social media data, local governments can identify common concerns or complaints among their citizens, allowing them to address these issues proactively.
10. Predict Disasters	Al can help predict natural disasters like floods or wildfires based on historical data and current conditions, enabling local governments to take preventative measures and plan their response.
11. Manage Traffic Flow	The use of traffic data from sensors and cameras can help local governments predict when and where traffic congestion is likely to occur
12. Predict Venue Occupancy	Through AI algorithms i.e. advanced data analytics with deep learning algorithms will help local government to make occupancy predictions accurately, optimize their resources, and plan marketing activities a lot more effectively on tourist places.

Use Cases: Local Government

Use cases

13. Deliver Service Support

• Leverage chatbots to provide automated service capabilities and allow the community to interact with government 24x7

14. Automate Transcription

• Automate transcription of council meetings and other sessions to free up transcriber time for critical evaluation of what was said in the official record.

15. Automate Translation

• Provide multilingual translation of live meetings and interactions with the community as well as reduce the effort to translate documents into official languages.

MTA, New York City using AI to combat transit crime: **Case Study**

The Metropolitan Transportation Authority has developed an artificial intelligence (AI) system to identify the high crime areas during the transit. **INDUSTRY** City **Transportation**

MTA, New York City, America

Challenge

 City of New York is facing challenge due to increase in transit crime on subways

Solution

- The MTA has installed security cameras throughout the subway system, including at all 472 subway stations.
- Integrated all the security cameras with AI algorithm to identify the un-usual activity prediction
- This also helps in predicting the high volatile areas based on data.

Results

- By using AI MTA can see a particular location and determine if something inappropriate is taking place
- City staff will focus on areas with higher risk and pose greater threat to safety.

Risk based Inspections by City of Edmonton: Case Study

Developing an artificial intelligence (AI) tool to expedite housing permit approvals by working on virtual operation assistance, and backend operations

INDUSTRY Construction **Permit**

City of Edmonton, Calgary, Canada

Challenge

 City of Edmonton is facing high volume applications for building plan approval and the road-block to the approval is inspections..

Solution

- The City of Edmonton uses nearly a decade of data to deploy AI model to increase inspection efficiency and effectiveness.
- Inspections deemed low risk are passed automatically, eliminating unnecessary delays in builder timelines

Results

- By using AI tool, the new inspection process in Edmonton has resulted in 37% decrease in eligible inspections.
- City inspectors were able to focus on higher risk and more complicated inspections, which pose greater threat to safety

Source: https://govlaunch.com/

Housing permit approval by city of Kelowna: Case Study

Developing an artificial intelligence (AI) tool to expedite housing permit approvals by working on virtual operation assistance, and backend operations

INDUSTRY Construction Permit

SOURCE City of Kelowna, British Columbia Canada

Challenge

• City of Kelowna is facing high call traffic or queries to front-line staff which is due to increasingly complex issues regarding housing permit queries and timelines.

Solution

 Municipality partnership with Microsoft and has developed an AI chatbot that automates permit applications and answers applicants' questions about the city's zoning bylaws and official community plan.

Results

- By using AI tool it is expected that front-line staff will save 20 to 40 per cent of their time answering the same questions.
- By using tool it has increases consistency that allows municipality to redeploy them on higher value tasks.

Source: JMIR AL



O365 Machine Translation Playbook

Leverage MS Translator to rapidly convert deliverables into Canadian French... and more!

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Managing Partner, Canadian Public Sector



Benoit Proulx

Executive Advisor. Canadian Public Sector

Analyst Perspective

ITRG knows that our members in Québec, Ottawa, and other regions of Canada have policies and requirements for multi-lingual communications and content. ITRG's open by default policy for the format of our content means it is easier to work with for translation. However, the cost of human translation is high in both effort and time.

The promise of machine-aided translation creates the opportunity to accelerate translation. We've evaluated key translation tools such as Google Translate, DeepL Translate, and ChatGPT, but found that the humble MS Translator embedded in the 0365 suite provides rapid, accurate translation into not only Parisian French, but Canadian French, and much more all at no additional cost. This allows rapid translation of the 0365 outputs of ITRG deliverables, tools, and templates are into French that only require a quick review before you share them with your colleagues!

About MS Translator

MS Translator has its roots in the Word grammar editor built in 1999!

From grammar correction to live translation of conversations in 25 years:

Over the past 25 years MS Translator has developed into a machine translator employing five discrete algorithms to provide instantaneous, high-quality translation, including <u>neural machine translation</u>, <u>syntax-based statistical machine translation</u>, phrase-based statistical machine translation, <u>bitext word alignment</u>, and <u>language modelling</u>.

It is embedded into the O365 suite of products. The most exciting development is that it allows you to translate your traditional Excel, Word, and PowerPoint documents. It is now available as an add-on for MS Teams that allows your spoken content in a meeting to be <u>automatically translated</u> into the language of choice of each participant!



Translation Accuracy

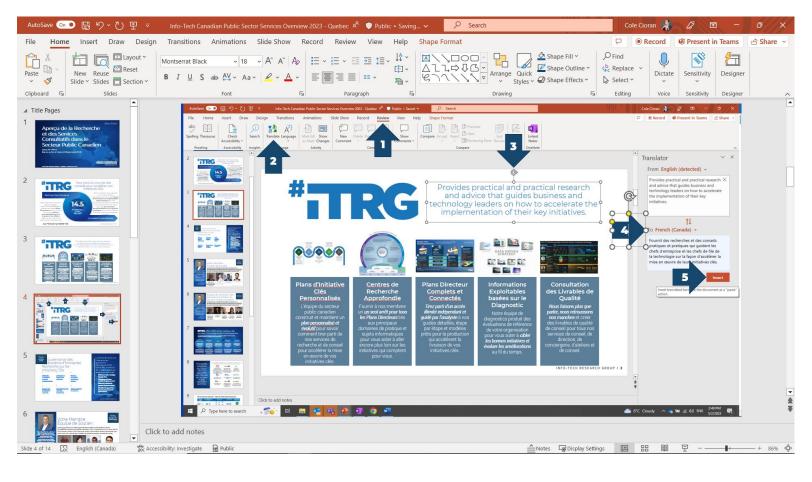


Our tests showed a 90% accuracy rate in translation into Parisian and Canadian French. 12 slides took 30 minutes to translate, and documents even less time.

Translate in five clicks

The same five steps apply to Word, Excel, PowerPoint, and other 0365 tools with text editing functions.

The only trick is to not include images in a selected text block in Word. This



7

Select the **Review** tab in your 0365 product

2

Select the **Translate** button

5

Select a text block

4

Select French
(Canada) from the
To Language drop
down

5

Select **Insert** to perform the translation!

Trust but verify!

Our bilingual staff has reviewed the results of the translation and found that it is high quality. However, there are some errors, and a little validation can ensure your translated deliverable has the intended impact. We recommend the following additional short checklist of things to look out for in the O365's French machine translation:

Masculine and Feminine

Check that the masculine and feminine forms are correctly applied as Translator doesn't always connect to the appropriate form.

Capitalization

Capitalization rules are often overlooked, noticeably in titles of PowerPoint slides. Make sure they make sense

Emotional Tone

Ensure the tone of the translation matches your needs. MS Translate produces formal, academic translation, and might not catch the nuances of the message that might give a misleading impression of the emotional impact you want to create.

The quality of the translation is your responsibility of course, but these best practices to help take the task from a high-value, high-effort one to a high value-low effort activity in a few easy steps!

What is your Tone?

Formal

You're all set!

Concerned

Check for terms that give a sense of caution.

Encouraging

Evaluate whether the language reassures readers.

Informal

Tweak the translation to make the tone more conversational.

Friendly

Look for more social and everyday language.

Surprised

Look for bolder expressions of your personal emotional response to the subject.

Optimistic

Ensure positive emotional terms are used.

Curious

Make sure questions are framed as open and inquisitive.

Cooperative

Academic language can be assertive, so adjust statements to make them more collaborative.

Ensure the tone of the translation matches your needs. MS Translate produces formal, academic translation, and might not catch the nuances of the message that might give a misleading impression of the emotional impact you want to create. Consider the one of these options for tone.