



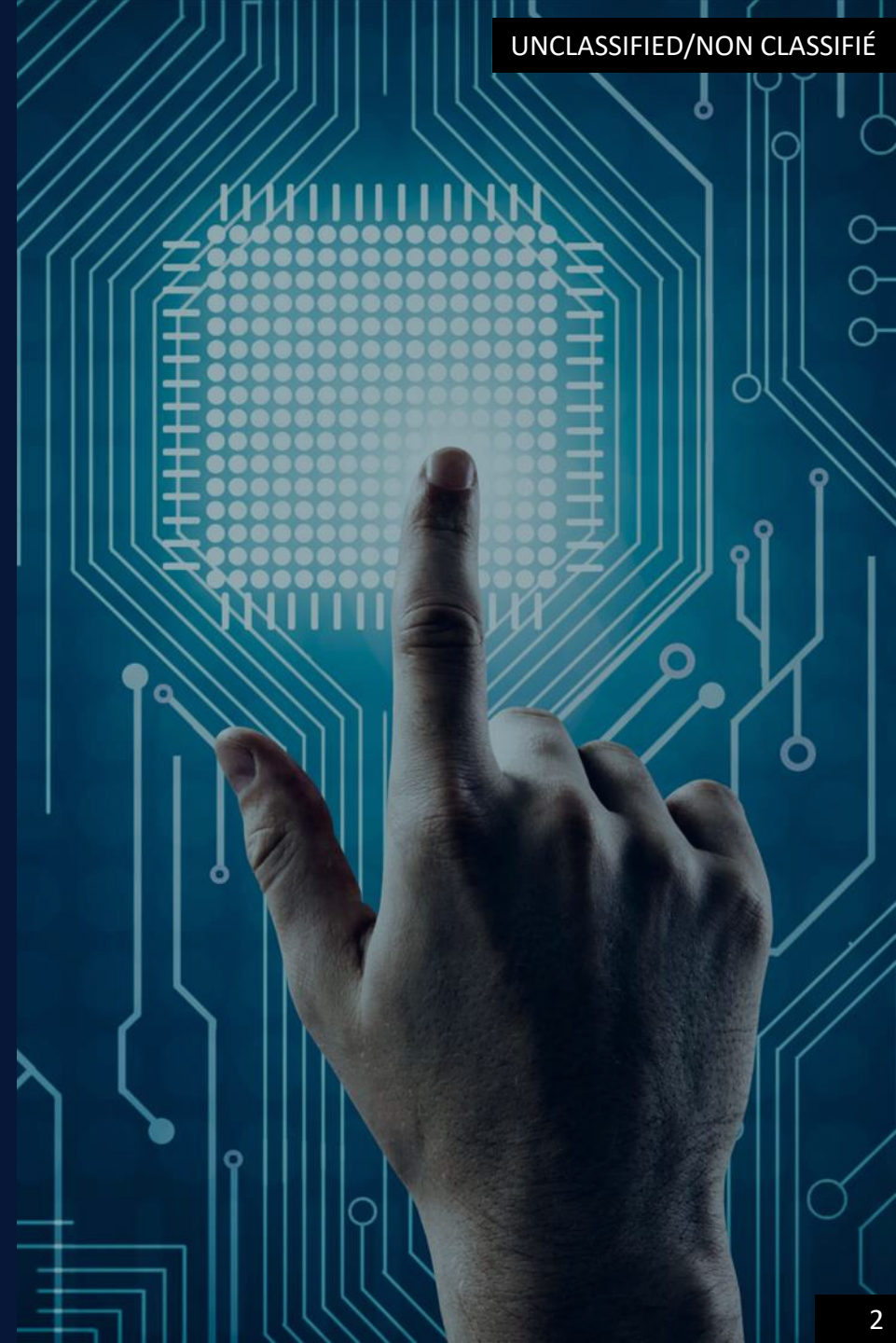
GUIDE ON GENERATIVE ARTIFICIAL INTELLIGENCE (AI)

PSMAC
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Chief Information Officer of Canada

Purpose

- Generative AI has garnered significant attention and departments are looking for guidance.
- The Office of the Chief Information Officer of Canada has developed a guide on generative AI, with publication targeted for summer.
- The purpose of this discussion is to provide an overview of the guide on the use of generative AI and help align future efforts in this space.



What is Artificial Intelligence?



"AI is technology that uses information one has to generate information one does not have"

**– Ajay Agrawal
Professor, University of Toronto**

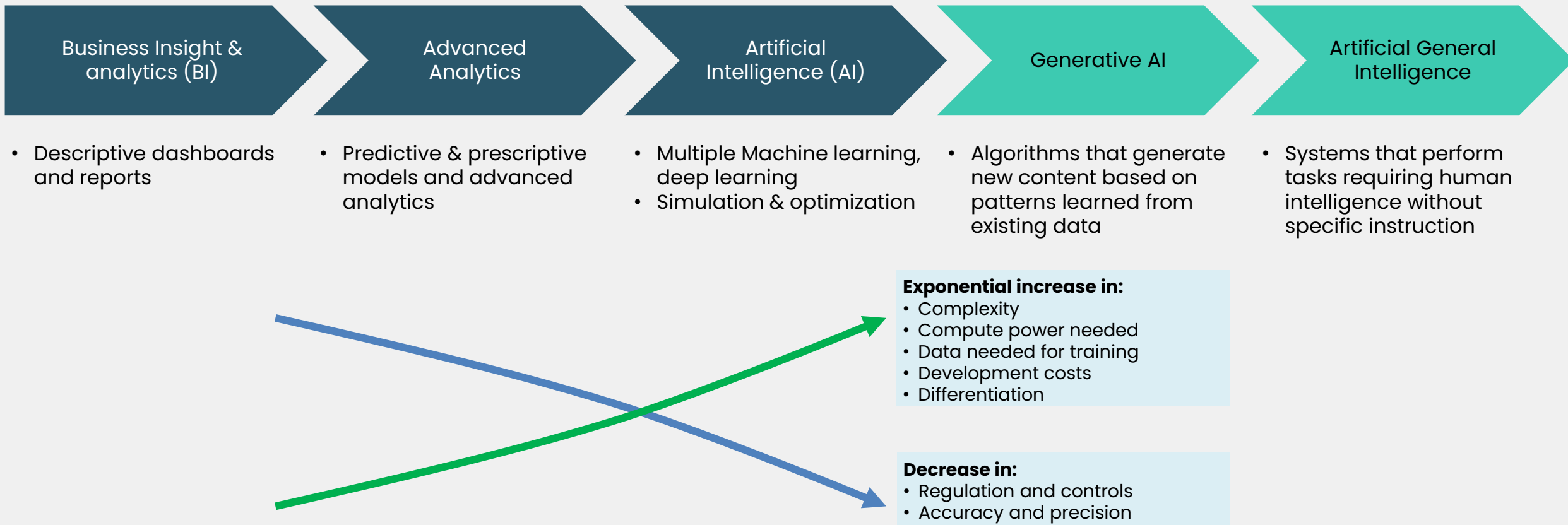


"Artificial Intelligence is information technology that performs tasks that would ordinarily require biological brainpower to accomplish, such as making sense of spoken language, learning behaviours or solving problems."

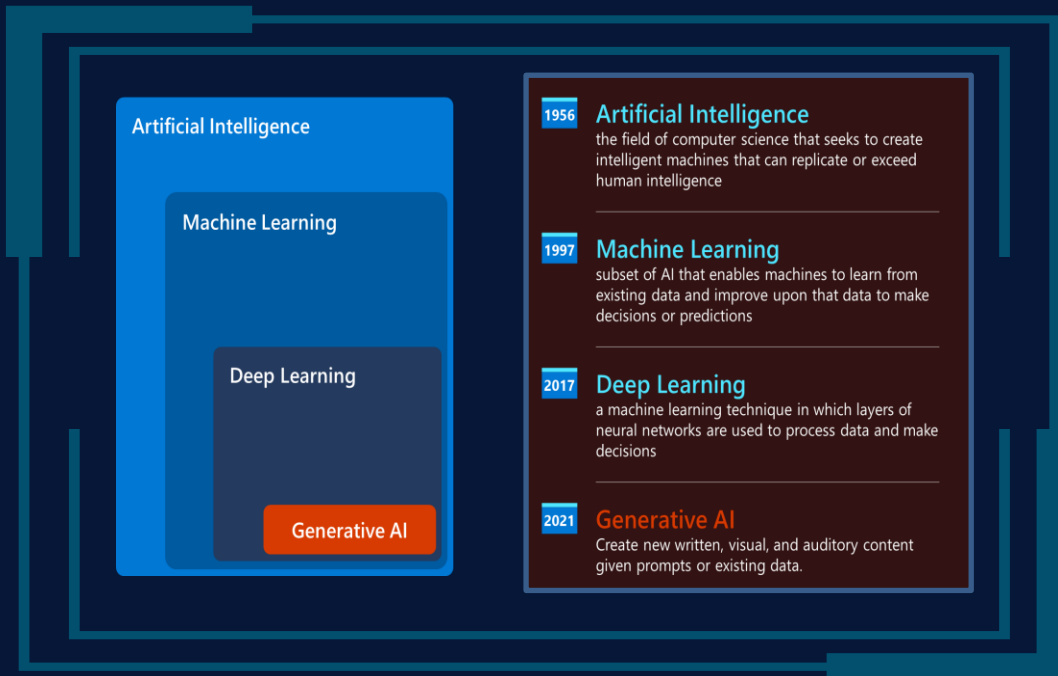
– Directive on Automated Decision Making

Introduction – Generative AI Extension of Artificial Intelligence Continuum

BI & Data Science

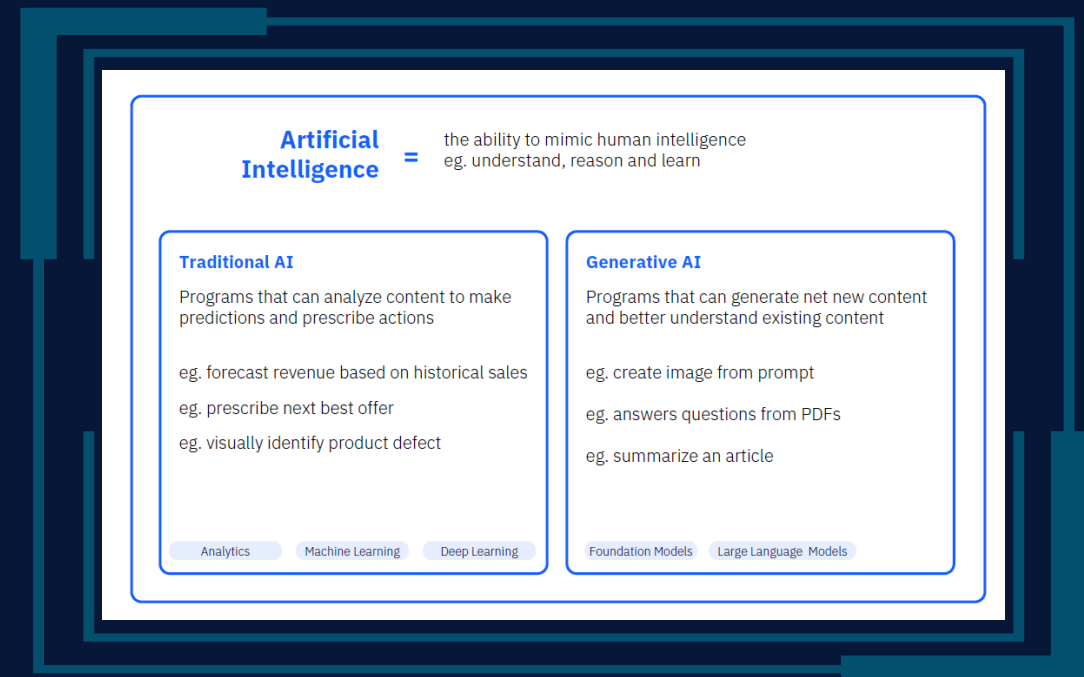


Artificial Intelligence – Generative AI is the next step in a continuum



Source: Microsoft, April 2023

Source: IBM Consulting, May 2023



Generative AI Context



An image generated by Stable Diffusion based on the text prompt "a photograph of an astronaut riding a horse" (Source)

- Generative AI can be used to create new content, including text, code, images, audio, and video.
- Generative AI tools became more available in the last year. E.g., Dall-E, ChatGPT, Stable Diffusion.
- Generative AI tools are generating a lot of discussion and questions.



a short joke about ChatGPT to government of Canada workers



Why did ChatGPT apply for a job at the Canadian government?
Because it wanted to be an "eh"-I model!









Guidance Outline

- What is generative AI?
 - Potential uses
 - Challenges and concerns
- Recommended approach
 - FASTER principles
- Policy considerations and best practices
 - Does the Directive on Automated Decision-Making apply?
 - Privacy considerations
 - Potential issues and best practices
- Frequently asked questions

Principles for the Responsible Use of Generative AI

To uphold public trust, the use of generative AI technologies in the GC should adhere to the "FASTER" principle:

| | |
|---|--|
|  Fair | Ensure that content from these tools does not include or amplify biases and that it complies with human rights, accessibility, and procedural and substantive fairness obligations. |
|  Accountable | Take responsibility for the content generated by these tools. This includes making sure it is factual, legal, ethical, and compliant with the terms of use. |
|  Secure | Ensure that the infrastructure and tools are appropriate for the security classification of the information and that privacy and personal information are protected. |
|  Transparent | Identify content that has been produced using generative AI. Notify users that they are interacting with an AI tool. Document decisions and be able to provide explanations if tools are used to support decision-making. |
|  Educated | Learn about the strengths, limitations, and responsible use of the tools. Learn how to create effective prompts and to identify potential weaknesses in the outputs. |
|  Relevant | Make sure the use of generative AI tools supports user and organizational needs and contributes to improved outcomes for Canadians. Identify appropriate tools for the task; AI tools aren't the best choice in every situation. |

Potential Issues and Best Practices

The guide includes a description of potential issues with generative AI use:

- Protection of information
- Bias
- Quality
- Public servant autonomy
- Legal risks
- Distinguishing humans from machines
- Environmental impacts

Each issue includes a description of relevant risks and identifies best practices to manage them.

Example: Quality

Issue

- Generated content may be inaccurate, incoherent, or incomplete.

Best practices

- Clearly indicate that you have used generative AI to develop content.
- Don't consider generated content as authoritative. Review it for factual and contextual accuracy by, for example, checking it against information from trusted sources.
- Assess the impact of inaccurate outputs. Don't use generative AI when factual accuracy or data integrity is needed.
- Learn how to create effective prompts.
- Etc...



Key Messages of the Guide

- The use of generative AI tools offers benefits, but also presents legal and ethical risks for users and institutions.
- Federal institutions are encouraged to explore the use of generative AI tools to enhance operations, making sure to evaluate and mitigate risks prior to use.
- Alignment to the FASTER principles can support the responsible use of generative AI in a way that maintains public trust.
- The use of generative AI tools must be compliant with the *Directive on Automated Decision-Making*, where applicable, as well as with other federal policy and legislation including the *Privacy Act*, the *Policy on Government Security*, and the *Policy on Service and Digital*.



Questions?

Please reach out to the TBS Responsible Data and AI team (ai-ia@tbs-sct.gc.ca)



Accessibility

As of the date of publication, this presentation has been verified for accessibility.

If you have any issues with this document, please contact the author.