MEMORANDUM

May 27, 2025
Regular Board Meeting

TO	Board of Trustees
FROM	Shauna Boyce, Superintendent
ORIGINATOR	Scott Johnston, Associate Superintendent
RESOURCE	Mark Karaki, Director, Technology Services Shaye Patras, Division Principal, Numeracy and Achievement
GOVERNANCE POLICY	Board Policy 1: Division Foundational Statements Board Policy 2: Role of the Board Board Policy 12: Role of the Superintendent
ADDITIONAL REFERENCE	BP 1: Vision, Foundational Statements BP 12: Role of the Superintendent
SUBJECT	**TECHNOLOGY SERVICES AND EDUCATIONAL TECHNOLOGY REPORT**

PURPOSE

For information. No recommendation required.

BACKGROUND

The Board is charged with the responsibility of providing, for its students and their parents, an education system organized and operated in the students' best interests. It exercises this responsibility through setting of local educational policy and the wise use of resources.

REPORT SUMMARY

The Technology Services and Educational Technology Report provides an overview of essential technology services and their implementation in schools for the 2024-2025 school year. This report focuses on the significant attention given to technology and cybersecurity approaches during this period, and features information regarding the implementation of emerging technologies.

Administration would be pleased to respond to any questions.

SJ:ly

Technology Services and Emerging Technologies Report

May, 2025

Presented to the Board of Trustees, May 27, 2025
Scott Johnston, Associate Superintendent, Education and System Services
Resources: Mark Karaki, Director, Technology Services
Shaye Patras, Division Principal, Numeracy and Achievement

TECHNOLOGY SERVICES

BACKGROUND

In Parkland School Division, the use of technology continues as an essential aspect of educational and professional life. Staff and students use the power of technology in a purposeful and meaningful way to deepen understanding and demonstrate learning.

Parkland School Division students and staff utilize technology to facilitate collaboration and professional development as well as adapt instruction and resources to meet the needs of our students. This has also led to an increasing awareness of the need for systems and processes to ensure that we have safe and secure online learning environments for staff and students.

This Learning and Technology Report represents the duality of technology services and technology education. It is essential to review how technology is utilized to improve education and also how the application of technology is supported throughout the Division.

In the 2024-25 school year, the Technology Services team continued to play a crucial role in enhancing educational experiences through the effective integration of technology for staff and students of Parkland School Division. This report provides an overview of the key initiatives, achievements, challenges, and future plans.

CYBERSECURITY

The cybersecurity program for PSD continues to evolve with the increasing threat environment. Controls are continually monitored to ensure these critical measures continue to safeguard our digital assets and ensure the confidentiality, integrity, and availability of our systems. In addition to the base controls required by our insurance company, we are improving security measures adding enhanced tools to increase our security posture.

Email Threat Scanning:

Email scanning mechanisms continue to identify and mitigate potential threats, including malware, phishing attempts, and malicious attachments. Monthly Average:

- Phishing Attempts Detected: 1100 spam emails were tagged as phishing attempts.
- Spam Filtered: 47000 emails are filtered as spam.
- Spoofing Attempts: 640 email spoofing attempts identified. These emails aimed to impersonate legitimate senders.

Endpoint Detection and Response (EDR):

Endpoint Detection and Response solutions have been deployed to monitor and respond to security threats at the endpoint level, such as workstations, laptops, and servers. Monthly Average Incidents Detected: 146

- High: 19
- Medium: 51
- Low: 76

The number of detected security incidents has increased due to enhanced detection rules and improved telemetry within our infrastructure.

TECHNOLOGY INFRASTRUCTURE INITIATIVES

A robust, reliable, and capable technology infrastructure is a necessity for meeting our current and future needs. Numerous projects were initiated and completed this school year.

Artificial Intelligence in PSD:

- Technology Services team members were part of the school-based AI committees sharing their expertise on how best to integrate AI with existing infrastructure.
- Initiatives are underway to investigate the application of Artificial Intelligence for predictive analysis in building management and operations.

Datacenter Server Hardware Renewal:

- This project is underway and 90% completed. The remainder of the migration will be finished during the summer of 2025.

Vretta:

- Technology Services collaborated with Instructional Services to successfully implement the full digital administration of all PATs and Diploma Exams. This included the completed provisioning of Chromebooks and printing solutions.

School Servers:

- We have significantly consolidated our server infrastructure, reducing the number of sites with local servers from 23 down to 3 strategic locations.
- The reduced server footprint has resulted in considerably lower projected costs for replacements and upgrades, alongside enhanced operational management and efficiency.

ASSETS AND DEVICES (2024-25)

Staff Device Lifecycle Management:

This school year, 80 staff laptops were updated as part of our technology lifecycle management. This aligns with our standard hardware rotation and has provided all schools with sufficient spare laptops for use by substitute teachers and casual staff.

Device Counts:

Parkland School Division continued a device evergreen initiative this school year for end of life devices. The devices were no longer supported through vendor operating system updates services. To ensure PSD is safe from security exploits and system vulnerabilities the devices were taken out of service and recycled.

DEVICE	2022-2023	2023-2024	2024-2025	CHANGE
Windows Computers	1,881	1,570	1,551	- 19
Chrome Devices	6,719	7,403	7,542	+ 139
Apple Devices	2,141	2,407	1,810	-597

OUR STUDENT INFORMATION SYSTEM

The Student Information System plays a vital role in managing student data and academic information across PSD. There are many data integration points with Powerschool being the hub of all the information and data transactions. The student information system streamlines administrative tasks such as enrollment, scheduling, assessment, and reporting. PSD uses the data housed within to guide data driven decisions for areas such as attendance, reporting and resource allocation. Technology services has worked on numerous projects to fulfill a diverse array of requests in this school year.

Assessment Dashboards:

The Math Assessment Dashboards continued into the 2024-25 school. These dashboards featured updates and improved reporting based on feedback from the previous year.

Registration:

The registration system updates allowed for continued effectiveness in faster processing for both parents and school administration.

Feedback gathered from schools after the registration period will be used to improve processes for the 25-26 process.

Other SIS Projects:

Safe Arrival absence management system was deployed in April 2025 to 4 pilot schools. The system facilitates Easy Absence Reporting for Parents/Guardians through mobile app, web portal of toll-free automated phone line. It significantly reduces the time school staff spend on manual attendance tasks, such as answering phone calls about absences and making calls to verify unexplained absences

TECHNOLOGY SERVICES AUDIT

During the 2023-2024 school year, the Technology Services Department utilized the contracted services of IBM Canada, to conduct an audit of both Educational, and Informational Technology Services (ET and IT). The Audit revealed strengths and challenges and provided a 170-point action plan, that focused on potential improvements in the following areas:

- Instructional Technology Utilization,
- Strategic Technology Planning,
- Technology Organizational Structure Suggestions,
- Service Improvements,
- Technical Improvements,
- Security and Disaster Recovery,
- Network Improvements, and
- Customer Response.

Technology Services continues to utilize the Technology Services Audit to drive systemic improvements.

Progress in 2024-25:

Technology Services implemented additional recognized security standards in all areas of operations to continuously strengthen our security posture. Notably, Parkland School Division's Microsoft Security Score is currently above average compared to most organizations of a similar size.

FORWARD CONSIDERATIONS: 2025-2026

Strategic Goals: Alignment Review:

Technology Services will ensure the 2025-26 technology goals directly align with and support the final version of the Division's new Education Plan and priorities for the upcoming year.

Infrastructure Plans:

We will assess the current balance between on-premise and cloud infrastructure; exploring further cloud migration possibilities and identifying requirements for improved hybrid cloud management tools and expertise.

Cybersecurity Enhancements:

We continue to conduct Incident Response Testing. This process involves the scheduling of annual tabletop exercises to test the Incident Response Plan and refine the plan based on outcomes.

Support & Service Improvements:

A continued focus on cross-training for technical support staff improves first-call resolution rates and provides more consistent support across different technology areas.

EDUCATIONAL TECHNOLOGIES AND ARTIFICIAL INTELLIGENCE

CONTEXT AND PURPOSE

The rapid evolution of Artificial Intelligence (AI) and emerging technologies presents both a challenge and an opportunity for our work within Parkland School Division. In alignment with our division's vision

> "Our students possess the confidence, resilience, insight, and skills to thrive in and positively impact the world."

AI-integrated learning environments have the potential to personalize education, enhance student engagement, and when used effectively, to develop competencies such as problem-solving, creativity, and digital citizenship. When thoughtfully implemented, these technologies support the creation of meaningful experiences, in alignment with our mission, by supporting teachers to meet diverse learner needs through adaptive tools, real-time feedback, and inclusive practices.

This work also advances our commitment to student success and well-being by ensuring learning remains relevant, authentic, and responsive to the demands of a technologically dynamic world. AI applications—ranging from assistive technologies to personalized instructional tools—can improve equity in learning outcomes." Moreover, as we continue to focus on our pedagogical practices, the thoughtful adoption of emerging technology provides teachers with additional tools to design engaging, evidence-based, and differentiated instruction that prepares students for enduring success. Finally, the use of AI for administrative tasks such as planning, assessment, and data management can significantly reduce workload and streamline routine responsibilities, allowing teachers to focus more on meaningful student interactions and instructional design. By alleviating time pressures and reducing administrative burden, AI has the potential to support teacher wellness, contributing to a healthier and more sustainable work environment.

"AI is the new electricity. Just as electricity transformed numerous industries, AI will have a similar impact." (Andrew Ng, Co-founder of Coursera and former Chief Scientist at Baidu).

WHAT IS ARTIFICIAL INTELLIGENCE?

Artificial Intelligence (AI) refers to computer systems that can perform tasks usually requiring human intelligence. This includes learning from experience, recognizing patterns, understanding natural language, and making decisions. Examples you might be familiar with include voice assistants like Siri or Alexa, recommendation systems on streaming platforms, and language translation applications.[1]

Generative AI is the part of AI that can learn patterns and relationships and use that information to create new content, such as text, images, music, audio, and videos. This field of AI has grown rapidly over the past few years and continues to evolve. ChatGPT, (Microsoft) Co-Pilot, and (Google) Gemini are examples of generative AI tools.[2]

In Parkland School Division, the term AI refers to all aspects of artificial intelligence, including generative AI.

> "AI is simultaneously revolutionary and something that's been quietly helping us out for years."[3]

EMERGING TECHNOLOGY/AI – UNDERSTANDING THE PSD CONTEXT

Given the significant diversity of school communities in Parkland School Division, understanding our current AI context is complex. To address this, Instructional Services conducted the "Introduction to Emerging Technologies/AI" survey in October 2024. The survey provided essential baseline data that informed our forward planning for Emerging Technology and Artificial Intelligence. Alongside research from divisions across North America, three key areas of focus emerged:

1. Leveraging AI to enhance administrative efficiencies;
2. Supporting teacher well-being through the effective use of AI and emerging technologies; and
3. Building foundational understanding of AI concepts, tools, and their instructional potential.

> *"AI is not a single technology, but rather a set of technologies that work in harmony to amplify human capabilities."*[4]

EMERGING TECHNOLOGY/AI – FROM EXPLORATION TO IMPLEMENTATION

Division-Wide Initiatives and Use Cases

C21 Use Case 1: Transforming Educational Practices Through Artificial Intelligence

Parkland School Division participated in the C21 project titled "Integrating AI in Education: Transforming Learning" in Fall 2024. With goals to enhance student achievement, support well-being, and improve administrative processes, this project aligned closely with our divisional work.

Within this project, a division-wide professional development session was created and delivered at all 23 schools. The session aimed to:

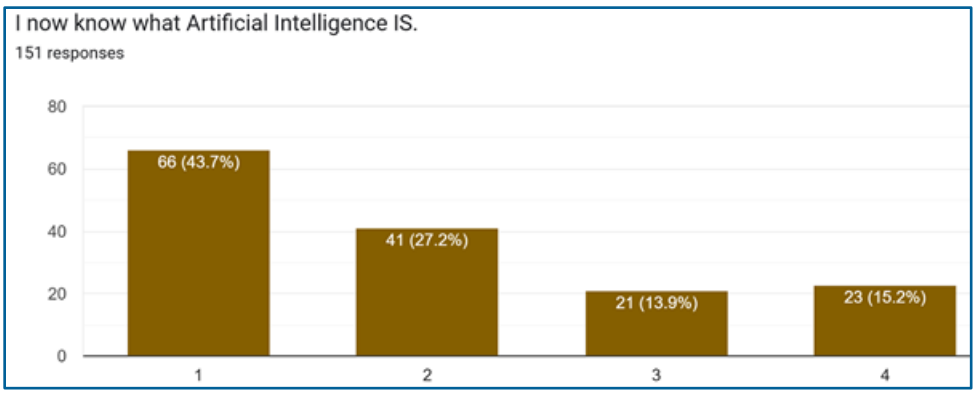
- Develop a common and clear understanding of AI among staff;
- Establish a consistent knowledge base across the division; and
- Inform staff of opportunities, risks, and challenges related to AI.

Aligned with Administrative Procedure 620: Artificial Intelligence, this initiative utilized a "Train the Trainer" model, where a teacher or administrator from each school facilitated sessions for their colleagues.

Post-session surveys indicated strong satisfaction with the learning, achievement of session goals, and a need for ongoing, targeted AI-related professional development. Some of the results are outlined below:

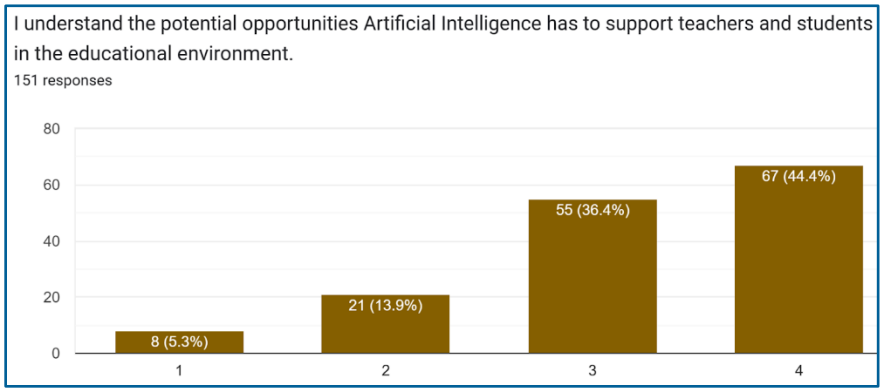
I now know what Artificial Intelligence IS

(1 = Strongly Agree / 4 = Strongly Disagree)



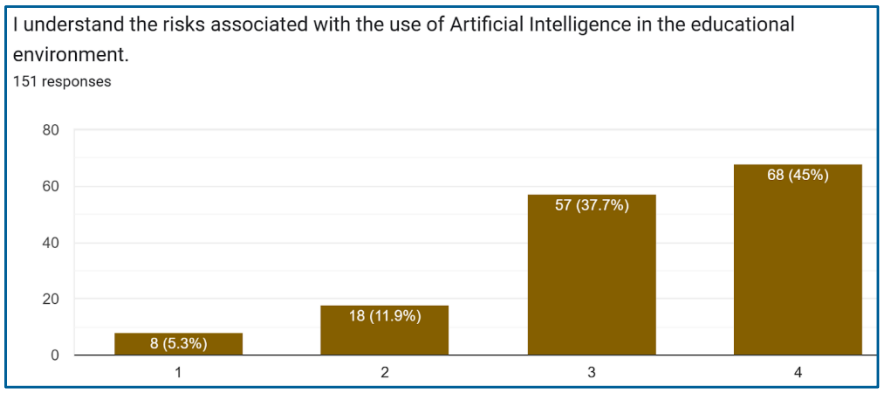
I understand the potential opportunities Artificial Intelligence has to support teachers and students in the educational environment.

(1 = Strongly Agree / 4 = Strongly Disagree)



I understand the risks associated with the use of Artificial Intelligence in the educational environment.

(1 = Strongly Agree / 4 = Strongly Disagree)



In response to the statement “Feel free to share any ideas and/or topics on Artificial Intelligence in education that you would like to learn more about” PSD staff provided many thoughts, some of which are provided below.

- Thanks for introducing AI in a way that makes it feel tangible to explore in an effective and intentional way. Great job!
- Really like the idea of asking to differentiate specific lessons for students. Thank you for coming today! I definitely learned stuff today :)
- As a K-4 school, AI should only be used by teachers. Asking students to apply critical thinking skills before they have been developed is completely inappropriate.
- I would love more time during PD to play with AI and see how I can use it to plan my lessons.
- Distinguishing between plagiarism and using AI, how are we determining what is a student's own work and what has been generated. What percentage of a students work needs to be "original"

C21 Use Case 2: Integrating the AI Assessment Scale (AIAS)

Building on the success of the initial C21 Use Case, Parkland School Division participated in a second project from February to April 2025 focused on integrating the AI Assessment Scale (AIAS) into educational practice. In this phase, participating teachers selected existing assessments and purposefully redesigned them to incorporate AI in meaningful ways, using the AIAS as a guiding framework.

The project began with an introductory session that outlined the goals and expectations of the initiative. Teachers then participated in a collaborative session facilitated by Instructional Services, where they shared ideas and refined their assessment plans. Following this, teachers implemented the redesigned assessments in classrooms, allowing students to engage with AI tools as part of their learning process. After implementation, teachers collected student feedback, and Instructional Services held a final collaborative debrief to reflect on outcomes and future directions.

Student responses to the integration of AI in assessments were varied and insightful. Some students noted that the AI tools helped them with structure and improved the flow of their ideas. Others expressed mixed feelings, describing the experience as helpful but also raising concerns about whether it felt like cheating.

Student comments included:

- "It helped with structure;"
- "It felt like cheating but helpful;"
- "It made my ideas flow better;"
- "It was easy to use but sometimes hard to control;"
- "ChatGPT helped me express myself;" and
- "I'm unsure how much AI use is acceptable before it's considered cheating."

ARTIFICIAL INTELLIGENCE ASSESSMENT SCALE UTILIZED

1	NO AI	The assessment is completed entirely without AI assistance in a controlled environment, ensuring that students rely solely on their existing knowledge, understanding, and skills **You must not use AI at any point during the assessment. You must demonstrate your core skills and knowledge.**
2	AI PLANNING	AI may be used for pre-task activities such as brainstorming, outlining and initial research. This level focuses on the effective use of AI for planning, synthesis, and ideation, but assessments should emphasise the ability to develop and refine these ideas independently. **You may use AI for planning, idea development, and research. Your final submission should show how you have developed and refined these ideas.**
3	AI COLLABORATION	AI may be used to help complete the task, including idea generation, drafting, feedback, and refinement. Students should critically evaluate and modify the AI suggested outputs, demonstrating their understanding. **You may use AI to assist with specific tasks such as drafting text, refining and evaluating your work. You must critically evaluate and modify any AI-generated content you use.**
4	FULL AI	AI may be used to complete any elements of the task, with students directing AI to achieve the assessment goals. Assessments at this level may also require engagement with AI to achieve goals and solve problems. **You may use AI extensively throughout your work either as you wish, or as specifically directed in your assessment. Focus on directing AI to achieve your goals while demonstrating your critical thinking.**
5	AI EXPLORATION	AI is used creatively to enhance problem-solving, generate novel insights, or develop innovative solutions to solve problems. Students and educators co-design assessments to explore unique AI applications within the field of study. **You should use AI creatively to solve the task, potentially co-designing new approaches with your instructor.**

 Perkins, Furze, Roe & MacVaugh (2024). The AI Assessment Scale

PROFESSIONAL DEVELOPMENT AND CAPACITY BUILDING

Complimenting the Use Cases and the data gathered from division-wide professional learning survey was a focus on ongoing professional learning opportunities for PSD staff. In order to provide multiple opportunities, sessions have been offered during site-based professional learning days, self-directed learning days, after school and in a pre-recorded format, to be viewed at the convenience of the viewer.

A summary of attendance at AI Professional Learning opportunities offered within PSD is outlined in the table below.

AI Professional Learning Opportunities 2024-25	
Title of Session	**Number of Attendees**
Introduction to Generative AI in Education (pre-recorded)	12
Introduction to Generative AI in Education	31
Your Creative Co-Pilot: Building Resources with AI	13
Creating Interactive Materials with AI	18
Visualize Learning: AI for Literacy	4
Write Better, Faster: AI for Report Card Comments	25
Level Up Your Report Card Comments with AI	9
Introduction to Generative AI in Education	27
Enhancing Classroom Discussion with AI Tools	9
Visualize Learning: AI for Literacy	22
Notebook LM: Your Smart Sidekick for Smarter Work! - CFE Staff	TBD
AI-Powered Teaching with Google: Supercharge Your Classroom	TBD

Additionally, we are pleased that some PSD teachers and administrators have also been willing to share their expertise in this area, offering sessions to colleagues during site directed time on the October 11, 2024 PD day.

Instructional Services Facilitators embedded AI across professional learning offerings. Specifically, the Emerging Technology Facilitator provided targeted support to schools, grade teams, and individual teachers. AI tools also supported curriculum implementation, notably in science (K-6) and social studies (2024-25 pilots).

CURRICULUM IMPLEMENTATION AND EMERGING TECHNOLOGIES

Alongside professional development focused on AI, staff engaged in learning around Emerging Technologies in order to support their work. At the forefront of this work was a focus on Computational Thinking as a portion of the new Science curriculum. To this end, Instructional Services offered sessions on coding and *Micro:bits* as a way to address these Learning Outcomes within the program of studies. The use of assistive technologies such as *Read and Write for Google* also expanded to support literacy across schools.

DIGITAL ASSESSMENT PLATFORM (VRETTA)

The 2024-25 school year provided an opportunity for Parkland School Division to take a leadership role and explore the Digital Assessment Platform (VRETTA) for Provincial Achievement Tests and Diploma Exams. In this “pilot” year of implementation, the PSD leadership team decided to use VRETTA for all Provincial Achievement Tests (PATs) and for the ELA and Social Studies 30-1 and 30-2 Diploma Exams (it is not available for any other Diploma Exams at this time). As expected, this shift in processes required significant planning and professional learning for teachers.

Instructional Services provided an information and training session to all administrators during the January lead team meeting. Additionally, Instructional Education facilitators offered several sessions to all grade 6 and 9 teachers to ensure that they are fully prepared for the administration of PATs on the Digital Assessment Platform.

High Schools received support during self-directed learning time in January and upon request.

SOFTWARE APPROVAL PROCESS

With the rapid, almost daily advances in technology and software development it was necessary to formalize a robust and efficient software approval process in PSD. To this end, the Instructional Services and Information Technology (IT) departments have worked together to develop a software approval process that ensures:

- Data security and privacy compliance;
- Pedagogical and technological alignment; and
- Efficiency and ease of use for staff.

While this process is still in a development phase, ongoing collaboration between IT and Instructional Services continues to lead to revisions and improvements ensuring we are able to meet the needs of PSD teachers in a timely manner.

ARTIFICIAL INTELLIGENCE/EMERGING TECH ADVISORY COMMITTEES

Supporting the work of Emerging Technology and AI within Parkland School Division are two committees. Our Kindergarten - Grade 6 and Grade 7-12 committees are made up of a representative sample of teachers from throughout PSD. The work of these committees focuses on:

- Streamlining and reducing workload by using AI to assist in the completion of Administrative tasks, where appropriate;
- Exploring how AI tools can further enhance teacher efficacy and provide engaging, relevant learning experiences for students; and
- Exploring AI tools and platforms in a collaborative environment to share findings and identify opportunities for implementation within PSD.

Teachers on these committees share their experiences with AI implementation, provide feedback and serve as a conduit between school-based staff and Instructional Services, ensuring that PSD staff needs are met in addition to their perspectives being heard.

EMERGING TECHNOLOGY/AI -NAVIGATING THE FUTURE

While Parkland School Division staff made significant strides in leveraging technology and Artificial Intelligence to enhance our work in several areas, much work remains.

- The Spring Emerging Technology/AI survey being administered to Parkland School Division staff will provide information both on successes achieved as well as challenges that remain.
- The input of our staff will assist us as we refine year 2 of our three-year plan, and as such will guide us in our work moving forward.

At this time, several areas of focus have been identified to continue our work in this area in 2025-26 and are as follows.

AI PD PLAN 2025-26 OVERVIEW	
Month	**Professional Learning Focus**
August/September	Prompt Engineering Course Outlines Year and Unit Plans Professional Growth Plans
September/October	Lesson Plans Rubric Generation AI Assessment Scale Student tutor/chatbots IEP Goal Writing
November/December	Report Card Comments Visual Design and Infographics
January/February	Report Card Comments IEP Updates
February/March	Assessment with AI
April/May	Report Card Comments

Key platforms to be explored include Brisk Teaching, MagicSchool, SchoolAI, ChatGPT, Gemini, and Perplexity. In 2025-26, PSD will continue supporting staff in navigating AI while beginning to address safe, ethical, and effective student use. This work will be accompanied by transparent communication with parents and stakeholders.

"The design of AI systems is not only a technical issue, but also a social and ethical one."[5]

Contextual Notes

[1] Russell, S., & Norvig, P. (2021). Artificial Intelligence: A Modern Approach (4th ed.)
[2] McKinsey & Company. (2023). What is generative AI?
[3] Kent Walker, President of Global Affairs, Google and Alphabet
[4] Fei-Fei Li, Professor at Stanford University and Co-Director of the Stanford Institute for Human-Centered AI
[5] Dr. Joy Buolamwini, MIT Media Lab