Professional Engineers
Ontario

VOLUNTEER LEADERSHIP CONFERENCE 2020

Protecting the Public Interest: staying aligned with our North Star during rapid change

June 11/12/13, 2020
Virtual Format

FINAL REPORT

This report includes a summary of feedback, insights, and suggested next steps

The information in this deck is based on detailed review of the responses to the post conference survey, analysis of the notes taken during the conference, and related discussions by the VLC committee.

Contents

Conference Experience
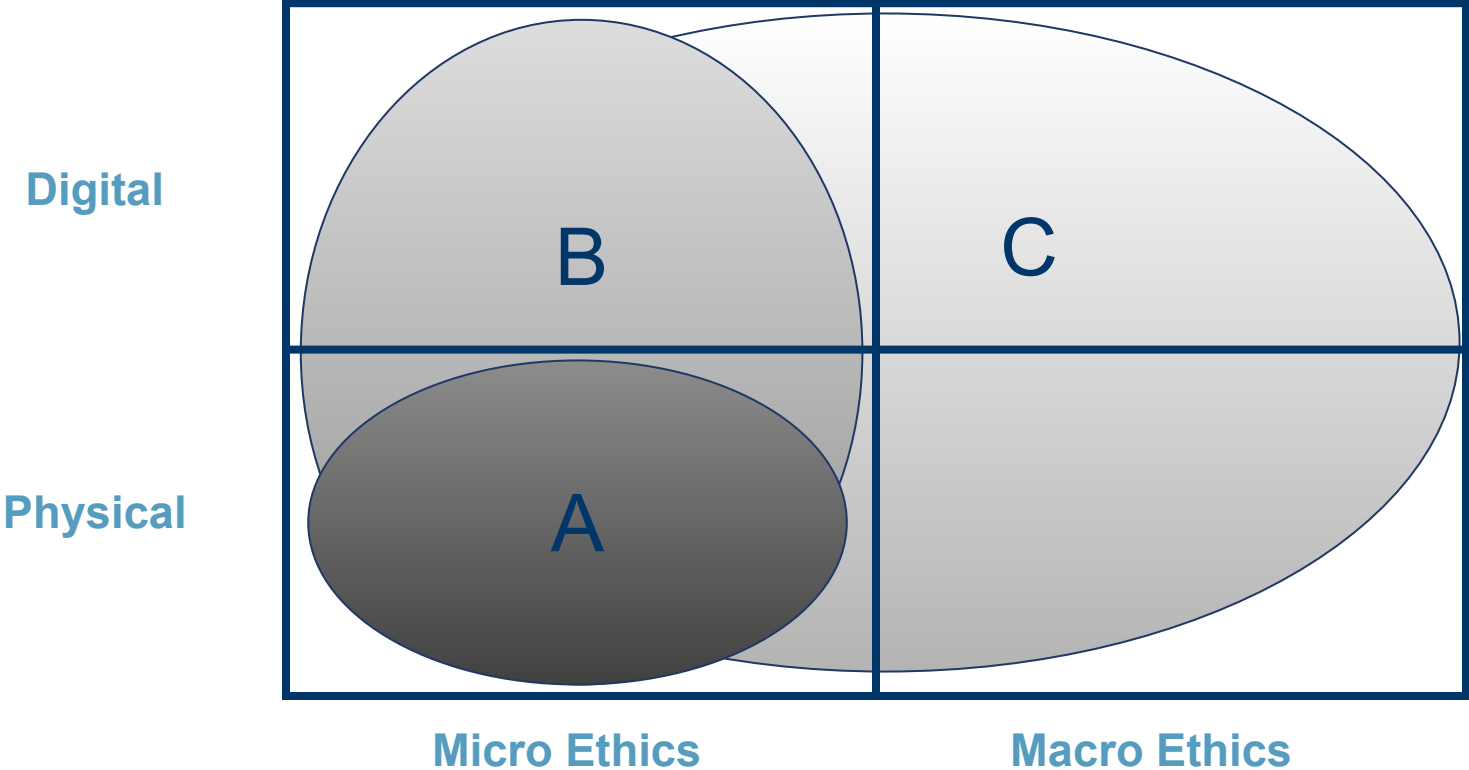
Conference Goal

Help enhance PEO's ability to **protect the public interest** within a rapidly changing world by supporting the development of a **longer-term vision** for the organization

Exploring The Range Of Possible Responsibility

Activities (click here for full conference deck)
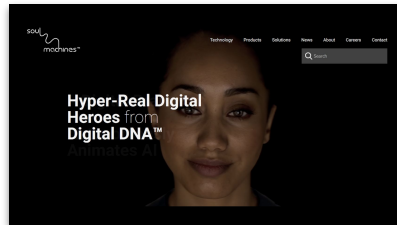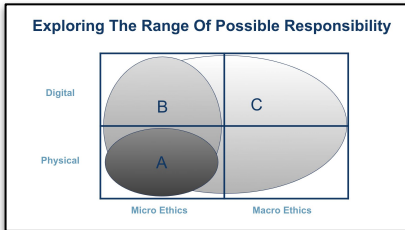
Session 1:
Exploring Scenarios

Session 2:
Case Study

Session 3a:
Headline of the Future

Session 3b:
Action Planning

Exploring The Range Of Possible Responsibility

Digital

B   C

Physical

A

Micro Ethics   Macro Ethics

soul machines

Technology Products Solutions News About Careers Contact

Hyper-Real Digital Heroes from **Digital DNA™**

Professional Engineers Fight For Data Privacy
Date: June 12th, 2030

A highly publicized case came to a close today as XYZ Industries was found guilty of the wrongful dismissal of professional engineer ABC. XYZ are makers of educational software for K-12 students, and their software design work falls under PEO's practice standard regarding Child and Student Data Governance, which is based on an IEEE international standard. ABC was fired when she refused as a professional engineer to modify the design of their software in a manner that would significantly circumvent the intent of the standard. Based on a PEO investigation, the company's certification of authorization was revoked, a decision that contributed to today's landmark court decision.

Statistic:
90% of data-driven businesses with significant operations in Ontario have committed to PEO's practice standards, which are fast defining the minimum legal standard of care

"As Professional Engineers we must stand together and not be afraid to wade into complex ethical questions in our efforts to protect the public interest."

2030 PEO Registrar

Example

What actions can PEO take?

Near Term	Medium Term	Long Term

Worksheet

Participants

101
participants

32
Thursday

38
Friday

31
Saturday

45
Chapters

26
Committees

21
Council

7
Staff

2
Guests

+10
Facilitators

Participation Overview

- 101 participants + 10 facilitators = 111 Total

- 33.6 average participants per day vs. 36 per day capacity

- Attendance per day
  - 32 Thursday
  - 38 Friday
  - 31 Saturday

- Attendance by role
  - 45 Chapter attendees representing 30 chapters (10 no shows)
  - 26 Committee attendees representing 16 committees (6 no shows)
  - 21 Council (2 no shows)
  - 7 Staff (0 no shows)
  - 2 Guest (1 no show)

Welcome On Behalf Of the VLC Committee

Márta Ecsedi, P.Eng., FEC (Chair)

Guy Boone, P.Eng., FEC (Vice Chair)

Marisa Sterling, P.Eng., FEC

Eric Nejat, P.Eng., FEC

Arthur Sinclair, P.Eng.

Viktoria Aleksandrova

Adeilton Ribeiro, P.Eng.

Julie Hamilton

Member, Advisory Committee on Volunteers

Eastern Region Councillor 2019-2020

PEO President 2020-2021

Member, Advisory Committee on Volunteers

East Central Region Councillor

Committee Coordinator

(Acting) Manager, Chapters

Chapter Coordinator

Introducing the Facilitation Team

Mark Abbott (Co-Lead) ECL Secretariat

Arlene Williams ECL Secretariat

Ariel Sim (Co-Lead) MaRS Discovery District

Aislinn Malszecki MaRS Discovery District

Beryl Strawczynski Volunteer Facilitator (Engineers Canada)

Duncan Stewart Volunteer Facilitator (BDC)

Mark Franklin Volunteer Facilitator (Career Cycles)

Franz Newland Volunteer Facilitator (York University)

Jason Lajoie Volunteer Facilitator (University of Waterloo)

Lynsey Kissane Volunteer Facilitator (Ryerson University)

Facilitation Team

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Key Takeaways

Key Takeaways - Page 1 of 2

- There is strong support for continuing a rigorous **visioning process** that engages a broad range of stakeholders as critical in addition to the ongoing governance and operational improvements efforts.

- The majority of volunteer leaders believe PEO's vision must fully tackle **digital and macro ethical concerns**; however, there is a broad range of opinions, including a minority group holding the opposite opinion. This underscores the need for the visioning process.

- There is a widely held appreciation of the rapid pace of technological change and a sense that PEO is falling behind. A new vision must help PEO to **remain relevant and provide infrastructure** for ongoing evolution.

Key Takeaways - Page 2 of 2

- A majority stressed the opportunity for **more collaboration with key stakeholders**, and many also stressed the need for **stronger public engagement**.

- The **virtual format was a success** and offers insights that will allow us to further develop pure virtual and mixed offerings in the future - including for next steps in a visioning process.

→ **Suggested Next Step:** that PEO council decides on the scope parameters of a robust visioning process (see next slide) and request proposals from carefully vetted service providers to support the design and facilitation of the process.

Range of Approaches for Visioning Process
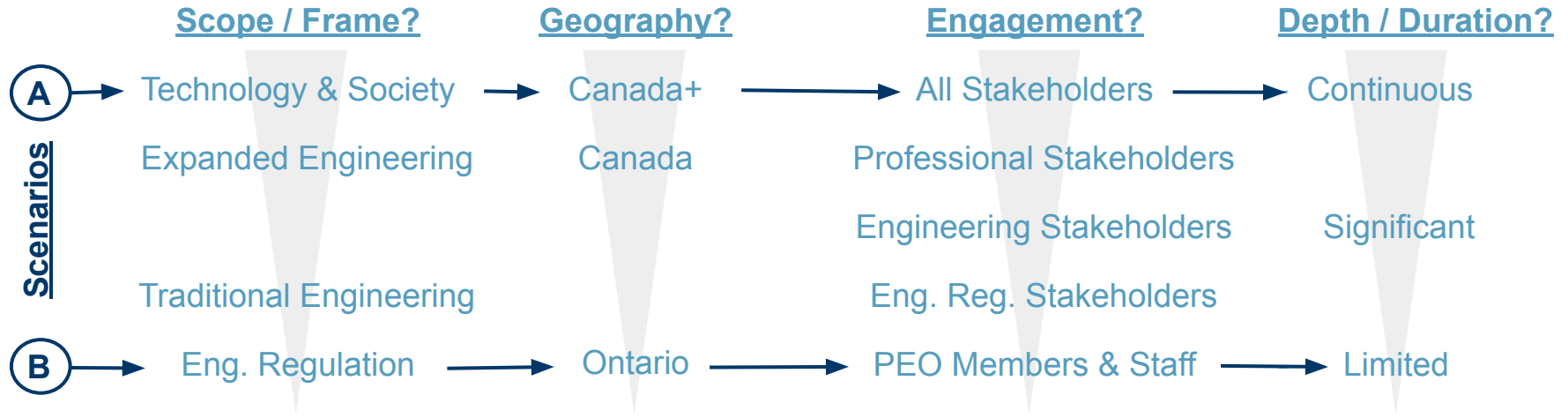
	Scope / Frame?	Geography?	Engagement?	Depth / Duration?
A →	Technology & Society →	Canada+ →	All Stakeholders →	Continuous
	Expanded Engineering	Canada	Professional Stakeholders	
Scenarios			Engineering Stakeholders	Significant
	Traditional Engineering		Eng. Reg. Stakeholders	
B →	Eng. Regulation →	Ontario →	PEO Members & Staff →	Limited

Recommend Scenario A

With good process design and effective collaboration with other actors, option A is a practical approach that establishes needed feedback loops to ensure PEO remains aligned with its North Star. It enables PEO to play a convening and leadership role among regulators, technologists, and the engineering community to catalyze efforts focused on engineering and the public interest. It bridges the engineering community into conversations that are shaping our rapidly changing world.

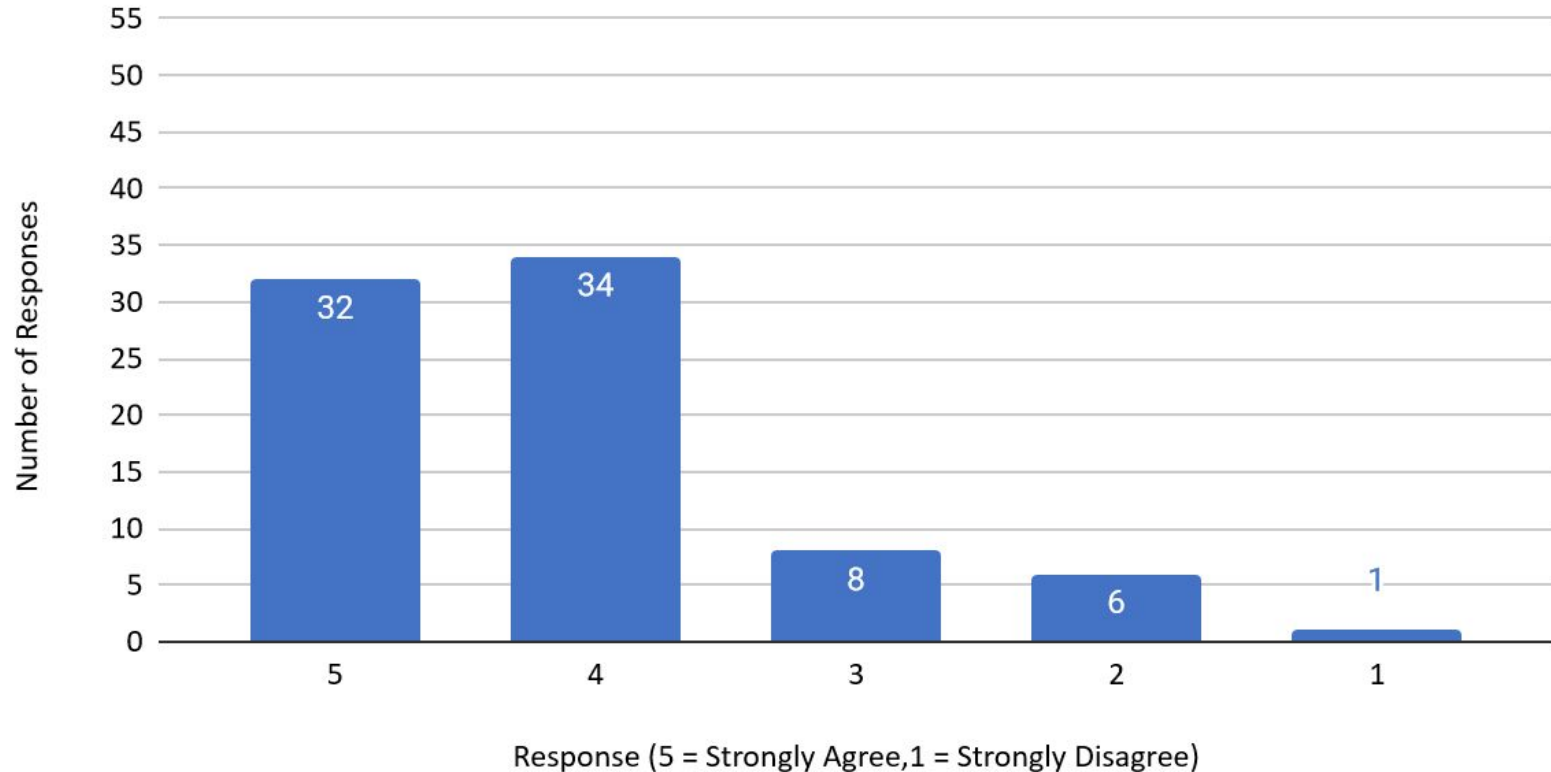# Post Conference Survey Part 1 (Feedback on the conference itself)

Port Conference Survey Response

- 81 post workshop surveys completed (80% of participants)

- All respondents answered all of the multiple choice questions

- 68 respondents (84%) answered one or more written questions

- Would you register for another PEO virtual conference like today's VLC?

  - Yes = 74

  - Maybe = 4

  - No = 3

I thought the conference goal reflected the correct priority at this moment.

Response (5 = Strongly Agree, 1 = Strongly Disagree)

Y-axis: Number of Responses

Bar values:
- 5: 32
- 4: 34
- 3: 8
- 2: 6
- 1: 1

I thought that the conference achieved its goal.
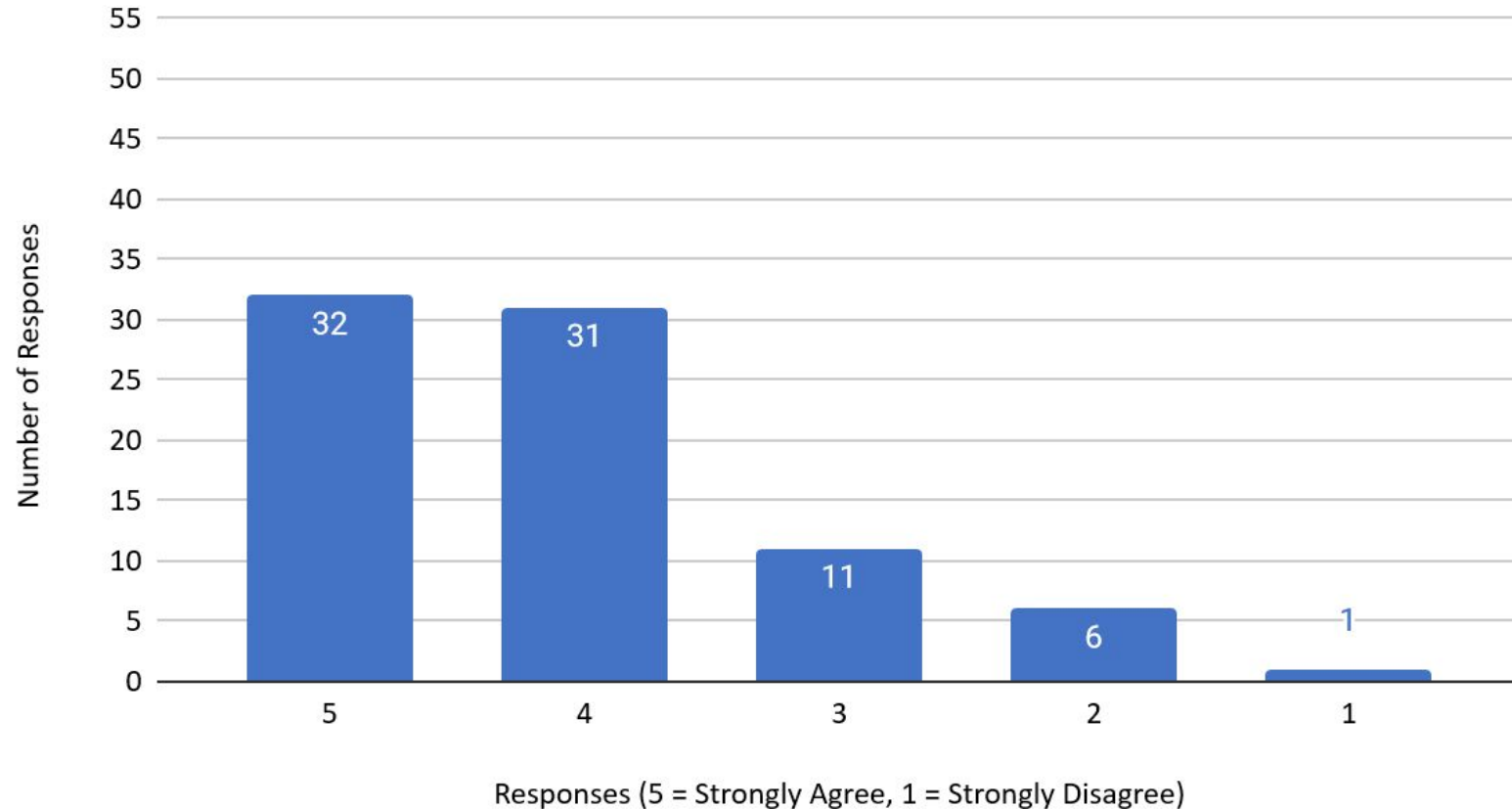
I found the conference interesting.

Responses (5 = Strongly Agree, 1 = Strongly Disagree)
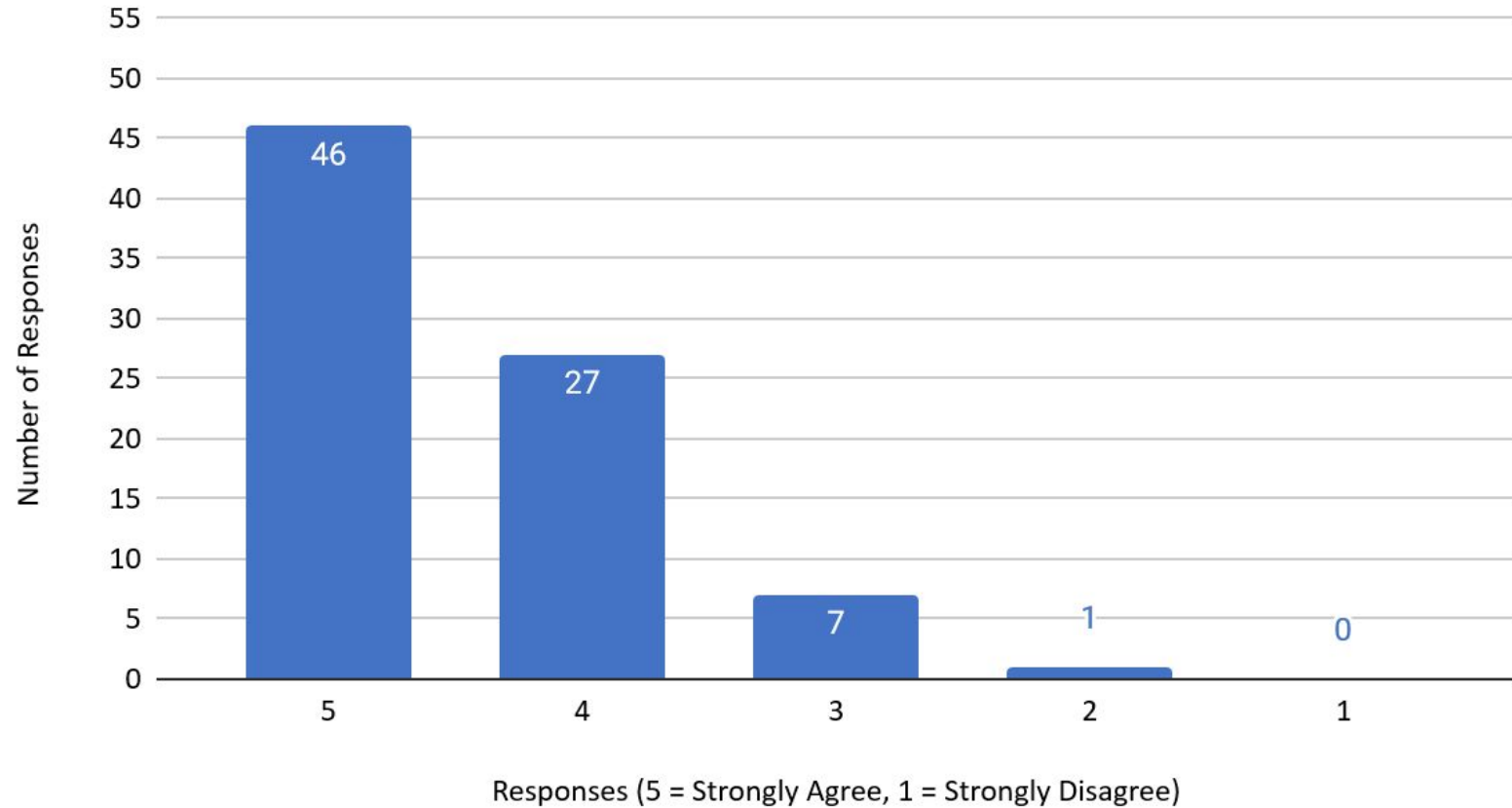
I felt the Breakout Room Facilitators were effective.
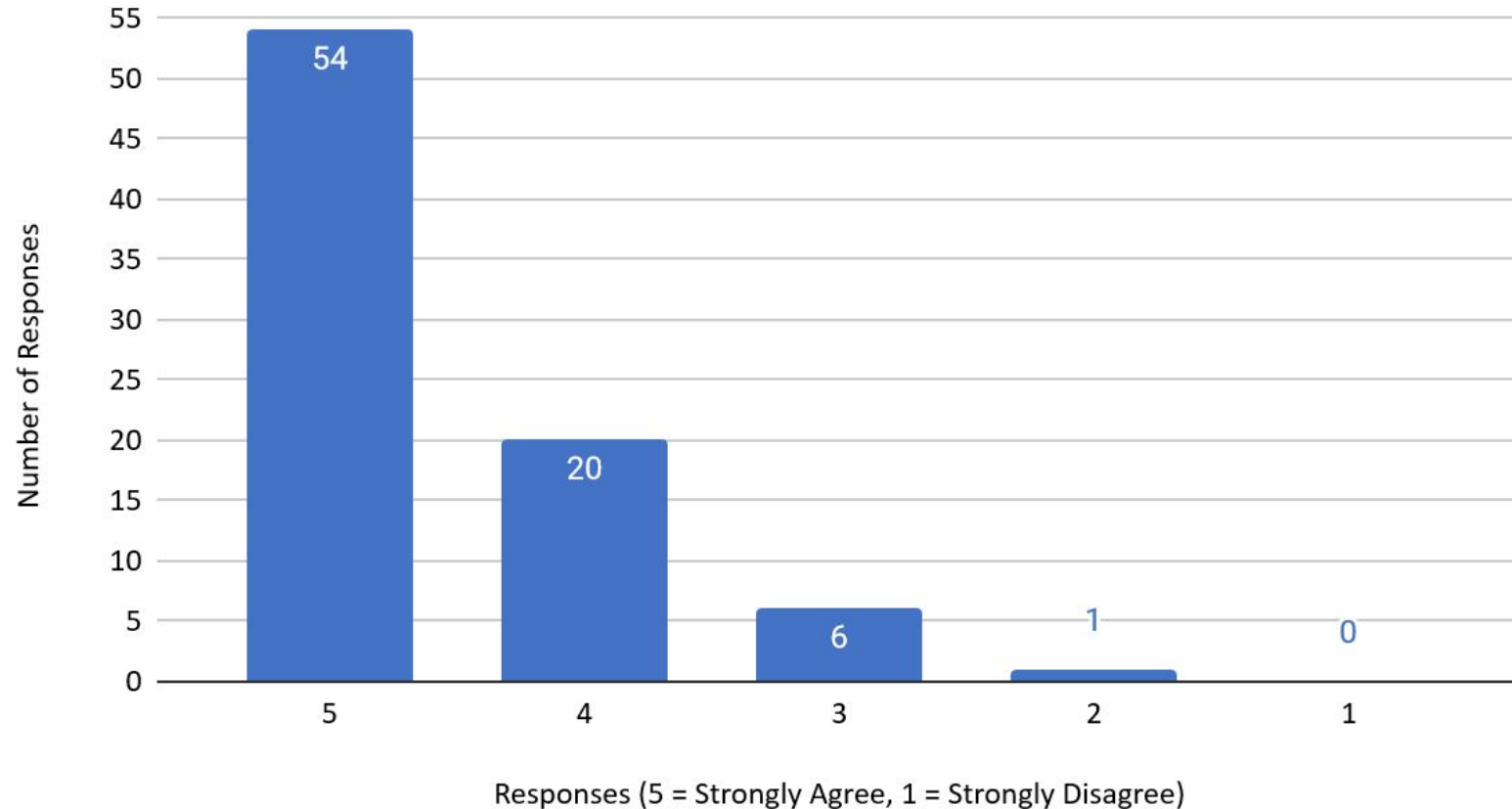
I felt the General Assembly/Plenary Facilitators were effective.

Chart showing "Number of Responses" (y-axis, 0 to 55) versus "Responses (5 = Strongly Agree, 1 = Strongly Disagree)" (x-axis):
- 5: 47
- 4: 26
- 3: 7
- 2: 1
- 1: 0
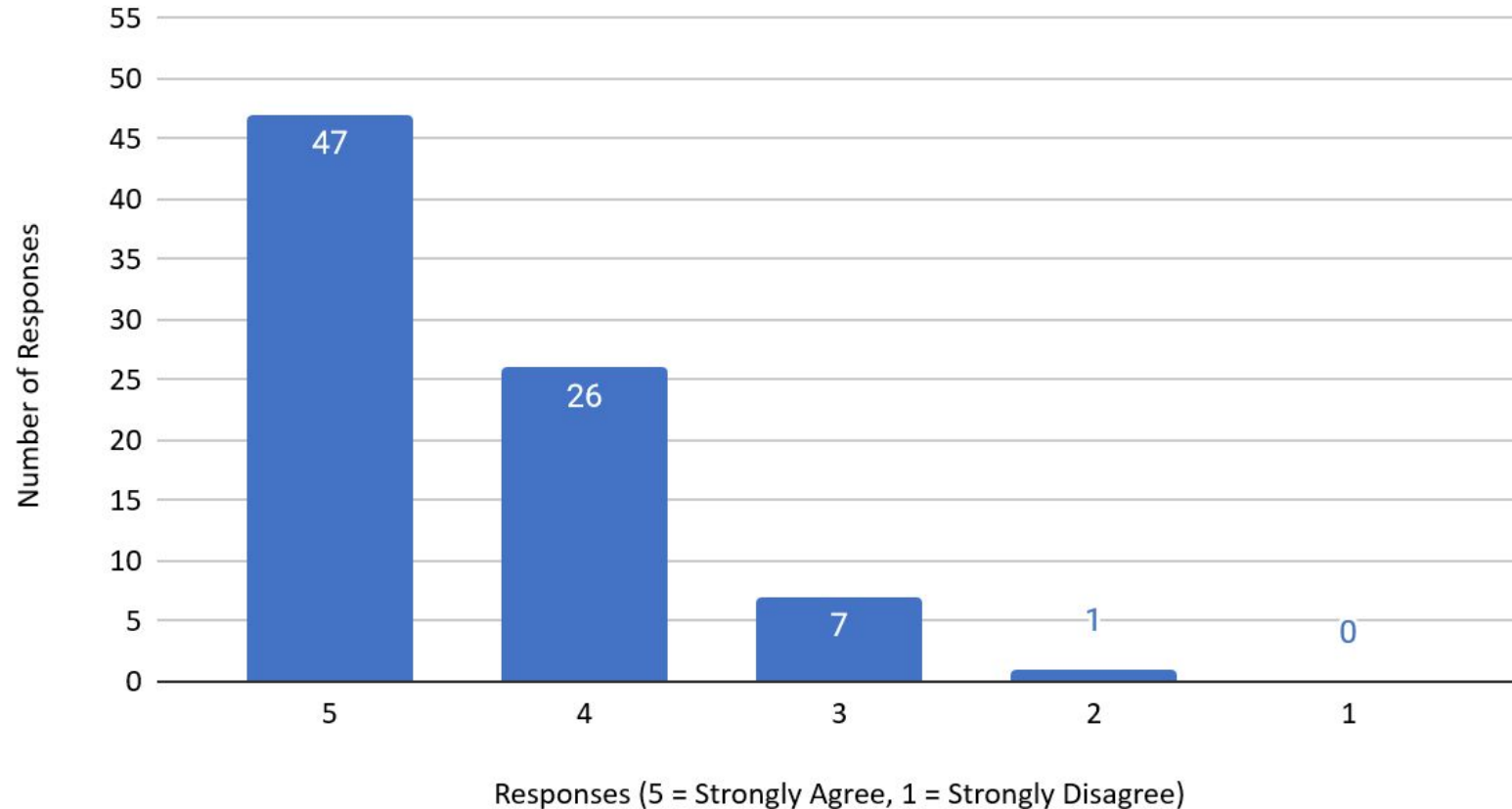
I enjoyed the virtual format.

Chart showing "Number of Responses" (y-axis, 0–55) vs "Responses (5 = Strongly Agree, 1 = Strongly Disagree)" (x-axis):

- 5: 33
- 4: 34
- 3: 10
- 2: 4
- 1: 0
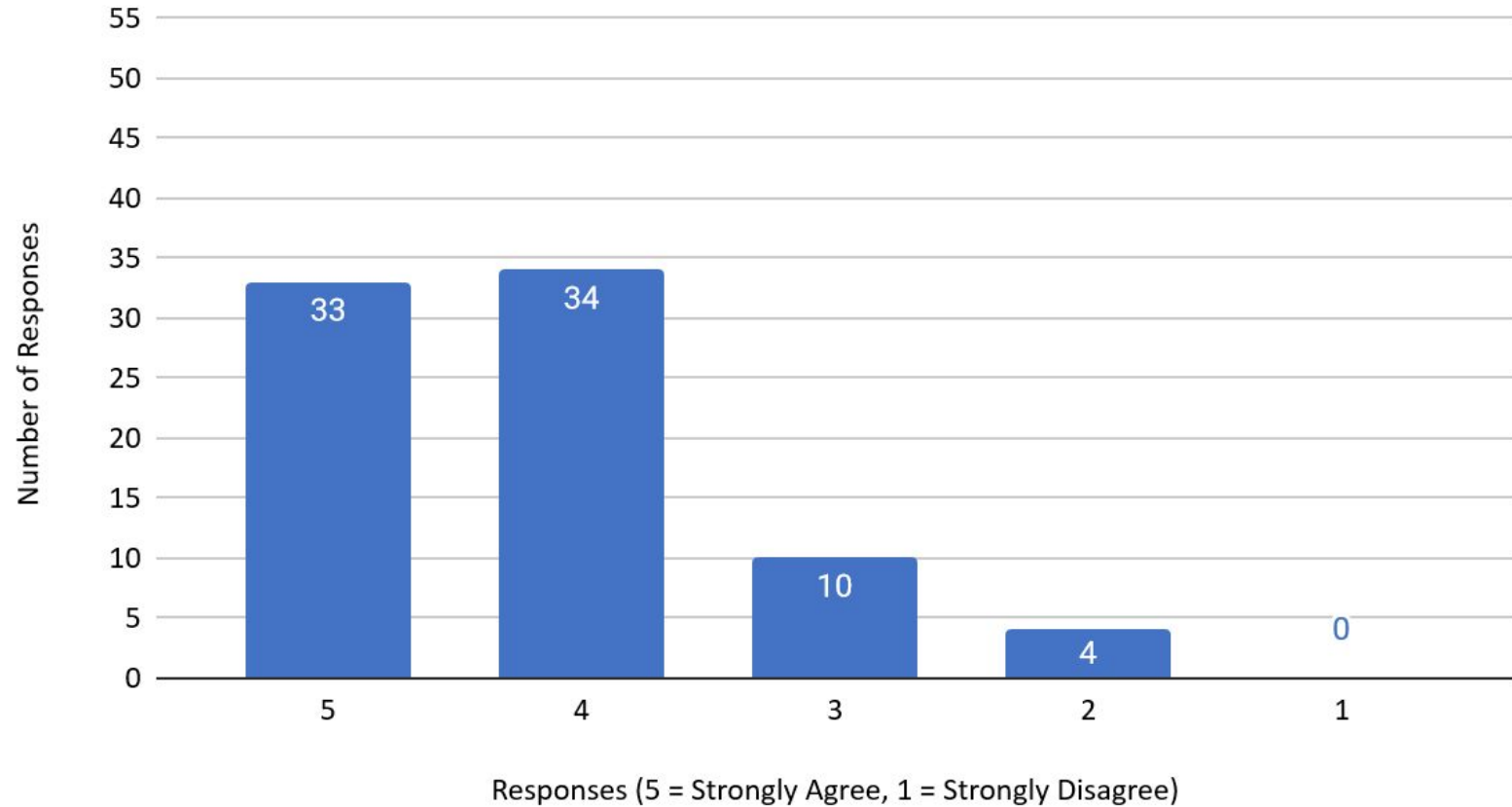
I received appropriate support before and during the conference.

Bar chart showing Number of Responses by Response value:
- 5: 51
- 4: 23
- 3: 5
- 2: 2
- 1: 0

Responses (5 = Strongly Agree, 1 = Strongly Disagree)
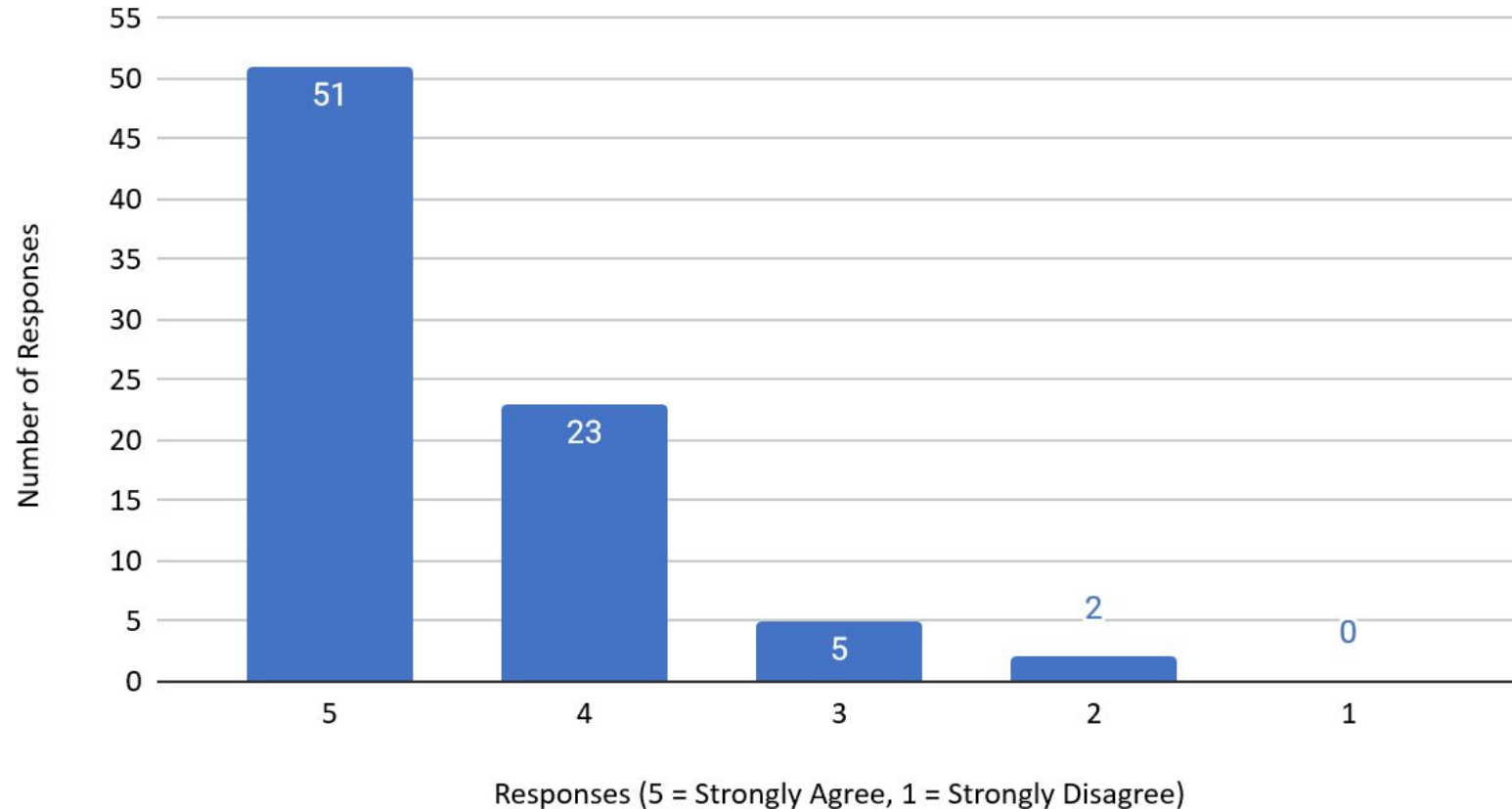
Part 1 Responses - Quantitative Overview

- Average responses to the questions on the 7 previous slides trended higher as the days progressed. The improving trend was noticed by the facilitators who worked multiple sessions and was attributed to a mixture of adjustments made each day + participant mix:
  - 4.0 / 5.0 = Thursday Average
  - 4.3 / 5.0 = Friday Average
  - 4.7 / 5.0 = Saturday Average

- Sorting of Written General Comments & Suggestion:
  - 15 response = Very Positive
  - 11 responses = Mostly Positive
  - 11 responses = Neutral / Minor
  - 10 response = Somewhat Negative
  - 3 responses = Very Negative

Reasonable Spread In Responses

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	I thou	I thou	I foun	I felt t	I felt t	I enjo	I rece	Do yo	It is in	Comn	It is in	Comn	The a	Who	What	Woul	Pleas		
2	3	2	3	4	3	2	2	in-person	1	we don't r	2					tbd	Friday	2.7	2.4
3	2	1	3	3	4	2	4	Its hard to	4	One step	3		Strategy t	Membersl	Interactior	Yes	Thursday	2.7	2.9
4	2	2	2	2	3	4	4	My first b / The forma	2	Sorry - bu	5	The Code	The only t	The gover	The organ	No	Thursday	2.7	2.9
5	2	2	4	4	4	2	4		5	Volunteers	4	Need abili	PEO nee	The chapt	Good con	depends	Thursday	3.1	3.4
6	2	2	3	4	4	3	4			2						No	Thursday	3.1	2.9
7	4	3	4	4	4	2	2	I liked the	4	To protect	5	Macro eth	See comn	CEAB bo	Define su	yes, prefe	Friday	3.3	3.6
8	1	2	3	4	4	4	5		2	I do not a	2	it was not	PEO's vis	All of PE	Everyone	Yes	Thursday	3.3	3.0
9	3	4	4	3	4	3	3	There was	5	Today, PE	5	Today, PE	Public aw	All the sta	Public aw	If the host	Friday	3.4	3.8
10	2	3	4	3	3	4	5		4		4					No	Thursday	3.4	3.6
11	3	3	3	3	4	5	3		5		5					Yes	Thursday	3.4	3.8
12	4	3	3	4	4	4	3	You need	5	If we don't	5	Recogniti	As part of	The broad	The goal	Yes	Thursday	3.6	3.9
13	4	3	3	5	2	3	5		4		3		Response	Provincial	SMART -	Yes	Saturday	3.6	3.6
14	4	4	4	3	3	4	4		4		4		Office org	Council, E	Follow thr	Yes	Thursday	3.7	3.8
15	4	4	4	4	3	4	4	even after	4	I think it is	4	There's ar	I don't thir	Often the	engineer is	Yes	Friday	3.9	3.9
16	3	2	5	4	4	4	5	Unfortunat	4	Digital tec	5	While pra	I think PE	Engineers	Broad inv	Yes	Thursday	3.9	4.0
17	3	3	4	5	4	4	4		1	Let go wh	2	Macro so	PEO mus	Local Car	Ahead of	Yes	Thursday	3.9	3.3
18	4	4	4	4	3	4	4		5		5					Yes	Friday	3.9	4.1
19	5	3	4	4	4	3	5	Conferenc	5		5					Yes	Friday	4.0	4.2
20	4	3	4	5	4	4	4	I believe it	5	It should	5	Should ad	Our vision	We must	Buy in by	Yes	Friday	4.0	4.2
21	3	4	4	3	5	4	5	I struggle	3			4	I like the i	The impor	PEngs, EIT and en	Yes	Friday	4.0	3.9
22	4	3	4	5	3	4	5	The virtual	5			3	PEO shot	Public ed	engineers	Be realist	Yes	Friday	4.0	4.0
23	3	4	4	5	4	3	5		4	While digi	2	As the re	Continuin	The government of O		Yes	Thursday	4.0	3.8
24	2	3	4	5	5	4	5		2		4					Yes	Thursday	4.0	3.8
25	4	4	4	4	4	4	4		4		4					Yes	Saturday	4.0	4.0
26	4	5	4	5	5	3	3	I enjoy in	5	PEO nee	3		Vision mu	Those tha	address tl	Yes	Thursday	4.1	4.1
27	4	4	4	4	4	4	5		3		4	I think tha	It must be	the public	It must int	Yes	Friday	4.1	4.0
28	4	4	5	4	4	5	3		5		3		Protect p	Members	A leader	Yes	Friday	4.1	4.1
29	4	4	4	4	5	3	5		5		3			Governme	Imlemntat	Yes	Thursday	4.1	4.1

Conference Itself - Comments - Page 1 of 2

- *"This conference was provided under unusual circumstances and the committee rose to the challenge."*

- *"The virtual format was much better than I expected. The pace was good and sufficient time for each activity. It seemed like people were much more comfortable speaking up in a small breakout than in the larger group in this virtual format."*

- *"Continue to do such excellent work in content and format. Follow-up will be critical for success."*

- *"I foresee a "blend" of virtual and in-person conferences will become the new normal. As humans, we need face-to-face social gatherings for improved mental health, while the virtual setting provides us with the convenience and privacy we sometimes need."*
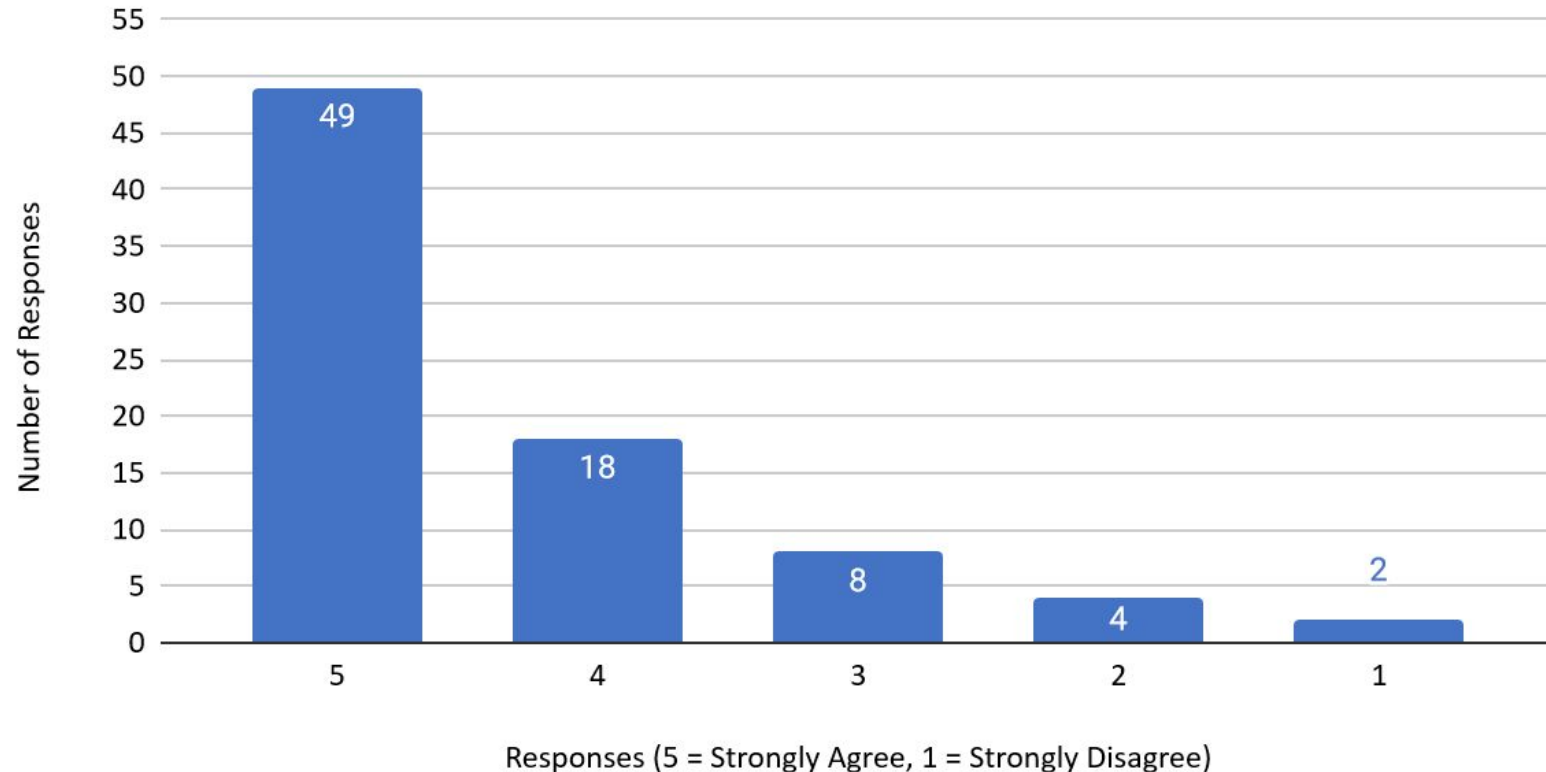
Conference Itself - Comments - Page 2 of 2

- *"Get more PEO members to attend. Like observers and active participants."*

- *"First time on a Zoom conference with breakout rooms. I thought it went very well but I still find live events are better."*

- *"This Virtual format could have accommodated all PEO Volunteers interested in attending, especially since spread over 3 days... There was no need to restrict to just the Committee & Chapter Chairs & Vice-Chairs."*

- *"The format was interesting but missed the key issue facing PEO which is how to implement the external governance review - without that, the organization will continue to re-hash these same issues for another 25 years and become increasingly irrelevant."*

**Post Conference Survey Part 2
(Input to help inform the visioning process)**

It is important that PEO's vision addresses the creation and application of digital technologies.

Bar chart showing Number of Responses on the y-axis (0 to 55) versus Responses (5 = Strongly Agree, 1 = Strongly Disagree) on the x-axis.

- 5: 49
- 4: 18
- 3: 8
- 2: 4
- 1: 2

Addressing Digital Technologies

- **4 responses = Definitely Full Digital + Broader Emerging Technology**
  - *"It should go beyond digital to other emerging technologies as well"*
- **14 responses = Definitely Full Digital**
  - *"This is very important as all branches of engineering are becoming more and more digital."*
- **4 responses = Maybe / Part Of Digital World**
  - *"I think it's important that we consider these areas of work, but I don't think we should assume that PEO is necessarily the right body to regulate them."*
- **5 responses = Probably Not or Limited Digital**
  - *"I do not agree there has to be practice of engineering - just because it is technology does not mean it is engineering and that those performing the work need to be licensed."*
- **2 responses = Definitely Not Digital**
  - *"I don't believe PEO's mandate is to address issues with advancements made in computer science."*
- **1 responses = Equating Digital With Telecommunications Used By Engineers**
  - *"PEO must maintain a "blend" of the virtual and in-person events, and this is where the digital technologies can provide some assistance."*

It is important that PEO's vision addresses macro ethical concerns.
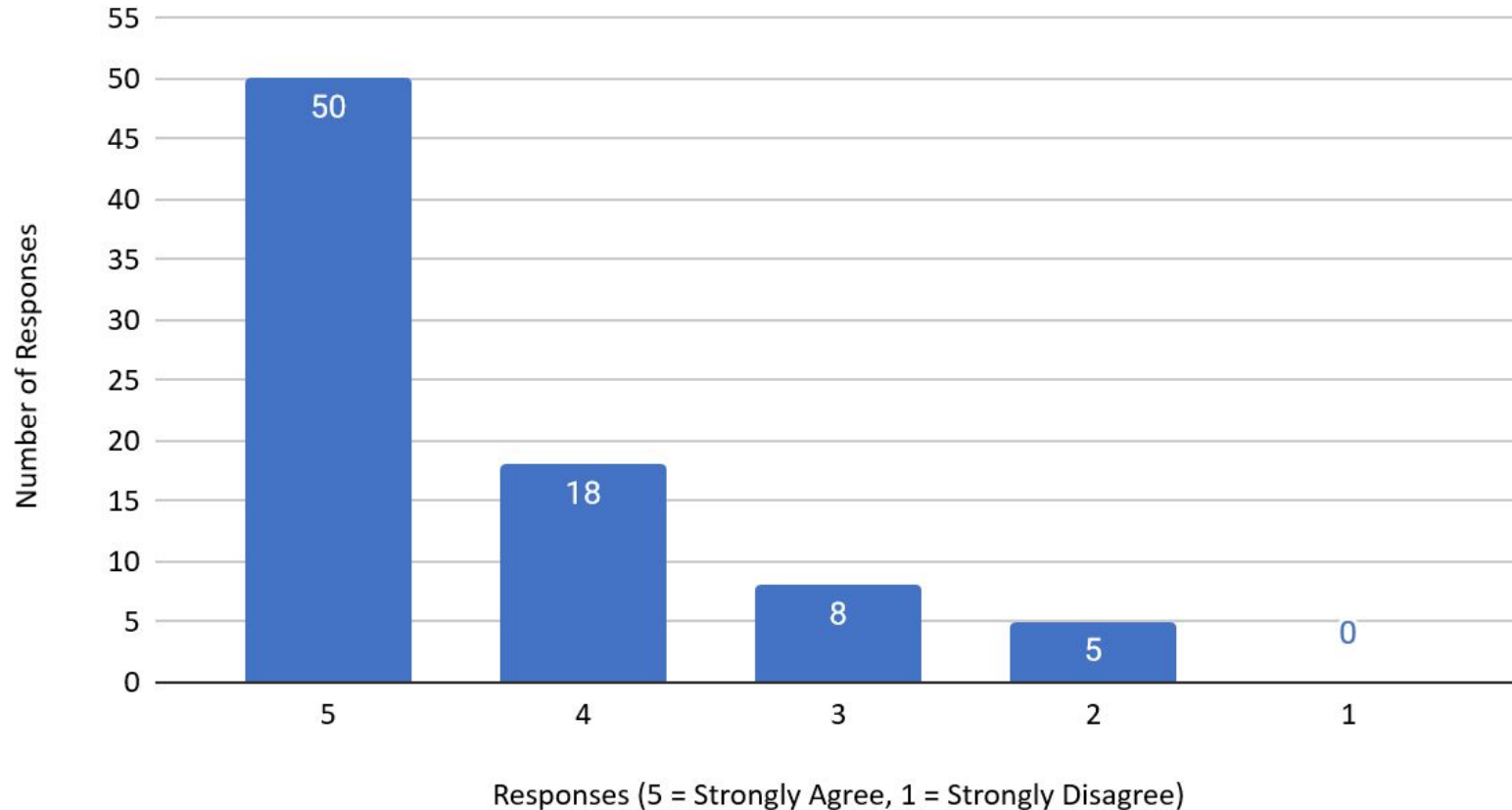
Addressing Macro Ethics

- Sorting of Written General Comments & Suggestion:
    - 16 responses = Definitely Full Macro
    - 5 responses = Cautious / Somewhat Limited Macro
    - 3 responses = Uncertain or Neutral
    - 5 responses = Probably Not or Very Limited Macro
    - 0 responses = Definitely Not Macro
    - 3 responses = Reinforcing ethics without explicitly mentioning macro

- General acknowledgement about the need to address macro ethics around new technologies; however, many concerns about the responsibility/opportunity for individual engineers and PEO.

- *"It will be increasingly important to address these going forward and PEO can be a thought leader."*

- *"Absolutely. And this discussion must consider whether our current model of licensing individuals and retroactively disciplining them for breaches of our standards is even suitable for this work."*

- *"PEO should certainly be aware of macro ethical concerns; however, this will take a societal shift to address/resolve concerns. PEO can't be expected to take this on through a regulating role alone."*

What else must the vision address?

- 13 responses = suggestions / questions around how to effectively regulate

- 9 responses = general suggestions for the vision process

- 7 responses = stressed need to consider rapidly changing world

- 7 responses = stressed the need for public and broad stakeholder engagement

- 6 responses = stressed the importance of collaboration

- 4 responses = stressed the need for diversity and inclusion

While:

- 7 responses = stressed need to better execute on current mandate

- 3 responses = stay focused on current priorities (Cayton report)

Who must we engage or consult?

- **35** responses mentioned **PEO (members, chapters, committees and/or council)**
  - 24 mentioned   Members / P.Engs / EITs
  - 6 mentioned   Chapters / Chapter Execs
  - 3 mentioned   Committees / Committee Execs
  - 2 mentioned   Council

- **57** responses mentioned **Broader Engineering Community**
  - 16 mentioned   Other Engineering Regulators (other provinces, countries, EC)
  - 3 mentioned   Non Licensed Individuals (who likely should be)
  - 9 mentioned   Engineering & Related Bodies (i.e. OSPE, CEO)
  - 16 mentioned   Engineering Schools / Academia
  - 7 mentioned   Engineering Students
  - 6 mentioned   Engineering / Tech related Standards Bodies (i.e. IEEE)

- **10** responses mentioned **Other (Non-Engineering) Regulators & Professional Bodies (i.e law)**

- **16** responses mentioned **Industry**

- **27** responses mentioned **Government**

- **23** responses mentioned **Public**

Keys to successful visioning process

- **31** responses stressed   **good planning / execution**

- **13** responses stressed   **broad engagement**

- **5** responses stressed   **achieving broad buy-in**

- **3** responses stressed   **staying focused on the public interest**

- **3** responses stressed   **accounting for the rapidly evolving world**

- **3** responses stressed   **interpreting or updating the Engineering Act**

- **1** responses stressed   **avoiding role creep (i.e. taking on OSPE scope)**

- **1** responses stressed   **willingness of organization to commit / change**

Harvest Of Session Insights

Session 1: Public Interest Failure Scenarios

A. A bridge collapses because of an incorrect input into design software
B. A car company uses a software cheat to circumvent environmental regs
C. An error in a software patch causes a plane to crash
D. Engineers pay kickbacks and cut corners on infrastructure projects under pressure from their company
E. A cyber security vulnerability results in a power plant being taken down
F. Facial recognition software has difficulty identifying people with darker skin because training data was biased
G. City infrastructure is designed to isolate disadvantaged communities
H. A bridge collapses due to errors inherent in the design software
I. The design of a news platform enables misinformation that impacts an election

Session 1 - Failure Scenarios - Insights

1. **Which of these scenarios can the public expect the PEO to help mitigate today?**

2. **Which of these scenarios should the public hold the PEO responsible for mitigating in the future?**

- **Key Takeaway:** There was a remarkable range of opinions on the scenarios, indicating a significant amount of confusion regarding what is (and should be) considered part of PEO's responsibility.

- Responses ranged between "all" and "none" with respect to whether digital/software and macro ethical issues fall within PEO's mandate.

- Many people focused on questions of practicality and/or suggestions for how to evolve PEO to protect the public interest over an expanded scope of responsibility.

- Many highlighted the need to understand how PEO can collaborate with other organizations/institutions who do/should share responsibility.

Session 2 - Engage With A Case Study - Page 1 of 3

1. **What public protection considerations would you have as an engineer working for <u>Soul Machines</u> (makers of virtual avatars indistinguishable from humans)?**

2. **Assuming Soul Machine was based in Ontario, what role could PEO possibly play in ensuring the company's impact is in the public interest?**

- **Key Takeaway**: Again, there was a remarkable range of opinions regarding the potential responsibility of individual engineers and of PEO.

- Some focused on **practicality**:

    - *"Company should follow eng. ethics, PEO can publicize those ethics, dialogue with company."*

    - *"PEO does not really have a lot of hard power = enforcement. Need to look at influence instead."*

    - *"Most of our legislation relates to low tech issues, the principles have been applied to world of software, yet there is no legislation per se."*

40

Session 2 - Engage With A Case Study - Page 2 of 3

- Some focused on **practicality** (continued):

  - *"PEO does not have this body of knowledge currently and would need to establish expertise."*

  - *"How can principles be applied in the digital realm? Need guidelines in place for engineer to follow in developing such systems."*

  - *"When it comes to these technologies, the best we can be is the ethical standard-setter. Policy may need to come from government."*

  - *"Questions are reflective of the things to come - PEO needs to engage."*

  - *"We need to improve our co-regulator relationship with government."*

  - *"A provocation: Could Soul Machine's AI Robot be an engineer? What would the role of PEO be then? Is the current definition of engineering clear enough to capture these scenarios?"*

  - *"Would a Certificate of Authorization be required by a company like Soul Machines so that the public can be safeguarded against their technology?"*

- Others highlighted limitations of **scope / responsibility**:

  - *"Principally, the PEO is a regulator of individuals not practitioners. There would be a different regulatory action. We don't have jurisdiction.*

  - *"No mandate over software engineers - PEO will have no ability without a change to hold all software engineers accountable." (Others pointed out that this statement is not accurate)*

  - *"How consumers use a product is outside the scope of PEO, only the design / production of the product."*

  - *"PEO is not an advocacy group and this is more of an advocacy issue."*

  - *"No role for PEO in this context."*

Session 1 & 2 Step Back Share - Page 1 or 2

1. **What are your top 2 or 3 insights from Sessions #1 and #2 regarding the future of protecting the public interest when the practice of professional engineering is involved?**

- *"What the public expects from engineers will evolve as public expectations evolve."*

- *"There seems to be a significant gap in defining what is and isn't in the definition of engineering work."*

- *"Disconnect between 100 year old act and massive exponential changes in tech; as a regulator as protector of public interest need to have that conversation."*

- *"Need to strengthen and expand the purview of PEO: A lot of this is developed by non-engineers."*

Session 1 & 2 Step Back Share - Page 2 or 2

- *"We are living in a globally interwoven system, which pose unique jurisdictional problems, and PEO must be cognizant of these issues when deciding when to intervene."*

- *"Collaboration - In this world of connection, there is no issue that is isolated. I think PEO needs to collaborate more with different fields - i.e. public, legislature, the field the technology will apply to - when there's a new technology."*

- *"Jurisdiction Issues - How to Solve? If a product is delivered online, your physical location doesn't matter so much in terms of impacting consumers."*

- *"In terms of Scope of PEO Responsibility, anything which entails engineering and could have adverse impacts on human life (economics, environment, etc…) should be under the mandate of PEO."*

Session 3 - Headlines of the future

1. **Imagine a future where PEO has expanded its contribution to protecting the public interest. What headlines would appear in the news? What behaviours would we see in society, at work, and at home?**

- Most participants seemed to enjoy the exercise, with a small minority finding it impractical.

- Stories covered a wide range of settings (from mining to prisons) and technologies (AI, big data, IOT, cybersecurity, power gen tech, nano materials, and more).

- Most groups took the suggestion of not being limited by current constraints and drew energy by connecting with a wide range of important global issues (enviro, economic, dis-information, health & safety, privacy, diversity & inclusion, and more)

- Links to the PEO mandate focused on standards (individuals, companies, and products), interface with regulation, and deeply participative / collaborative approaches.

- However, many struggled to connect their stories of the future to the core regulatory mandate of PEO and to connect their stories of the future with today's realities.

Session 4 - What actions can PEO take? Page 1 of 3

1. **What are the top 2-3 actions that PEO could take regarding the future of protecting the public interest when the practice of professional engineering is involved?**

- Shared Understanding of Scope:

    - *"PEO becomes more a visionary organization with frameworks more than detailed standards."*

    - *"Clearer definition of what engineering is so PEO knows what it should/should not be regulating."*

    - *"Correctly defining we are going to regulate in the public interest - clear boundaries."*

- Collaboration & Engagement

  - *"Create collaborations / partnerships with orgs from industry and academia specialized within new areas of tech. Avoid having too spawn committees. PEO's role as curator."*

  - *"Become more outward facing regulator - less navel gazing - look outside - visioning should include public, attorney general, students, academia, practicions."*

  - *"Work with the government to change the Act to make Ontario a safer and better society. Reviewing the Act is an ongoing process because the world keeps changing."*

  - *"PEO gets to the table with those making regulations - influencing regulations/codes."*

  - *"Need to start educating the public now, because that takes time/generations to accomplish what we need to accomplish."*

  - *"PEO priorities are driven by external/public need becomes key driver for internal change/evolution."*

- PEO Operations / Functions

  - *"Develop practice standards (not technical standards)."*

  - *"Audit mechanism for companies to receive certification of merit; specific to standards."*

  - *"Increasing membership and interaction with membership to different issues (surveys, task force), because some voices are not being heard, or are actively being ignored."*

  - *"Removing obstacles to innovative licensing processes."*

PEO President's Key End-Of-Day Takeaways

We're already on a path of transformation with respect to our operations and governance. The last missing piece is our vision what will support us to:

- Better understanding of scope of professional engineering that deepens our understanding of engineering ethics and is flexible to support evolution.

- Interpret the the act in a broader sense. Not just current public expectations, but also the bigger emerging macro ethical issues and the role PEO can play.

- Create / contribute to the creation of proactive standards and guidelines.

- Increase public, industry, and government awareness so that we can better understand what the public needs and how we can make them happen.

- Engage and consult with the public much more directly.

- Resolve gaps between what is taught in engineering schools and what we are regulating.

Next Steps

Suggested Next Steps

The PEO VLC Committee suggests that PEO council decide on the scope parameters of the visioning process and **request proposals from carefully vetted service providers**.
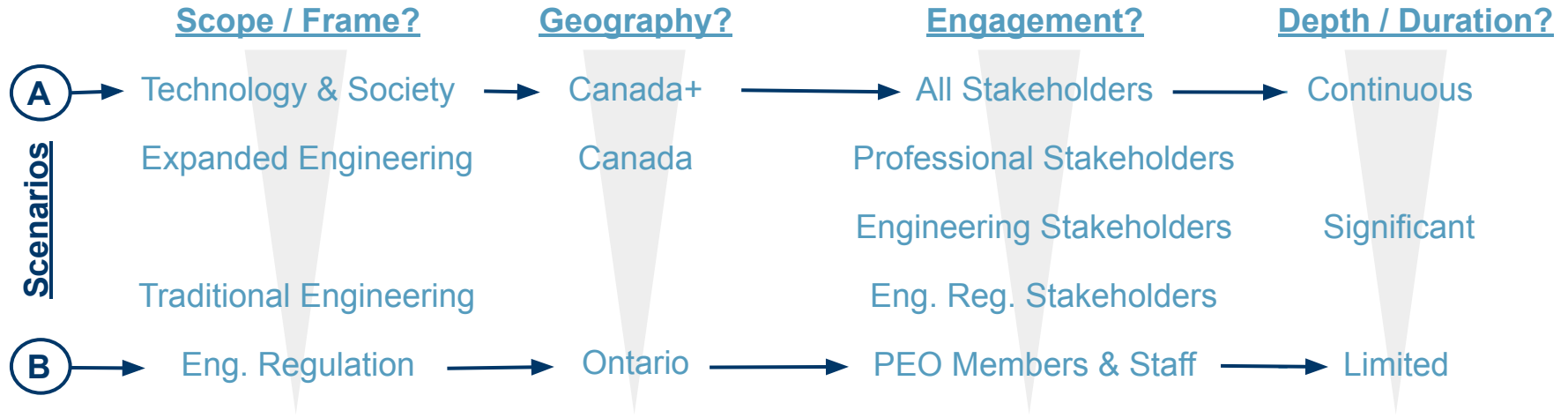
Suggested Path Forward

- Leveraging PEO's legislated legitimacy and other strengths, there is an opportunity for **PEO to take leadership in launching a coalition effort** to continuously review questions around the public interest related to the practice of professional engineering in a rapidly changing world in a manner that can both guide PEO and support the effective collaborative contribution of other key orgs/institutions.

- Although this may at first seem large and daunting, there are **practical models and experienced service providers** that can support PEO in engaging other key stakeholder orgs/institutions from within engineering and key adjacent communities

- There are also practical models and experienced service providers who can support **effectively seeking public input to inform and lend legitimacy** to efforts (e.g. the patient advocacy group model from healthcare).

Suggested Path Forward

- A **"case law" style approach is recommended** where tangible examples are used to explore the extent of the responsibility of professional engineering, different orgs/institutions within the engineering community, and the responsibility with key collaborators beyond the engineering community(I.e. industry, government, and more.)

- After an initial process that leverages a range of public interest failure scenarios "cases" to build shared understanding of the PEO's scope, relationship to orgs / institutions, and to identify any gaps in the current collective response, the process could evolve to focus on **proactive sensing and anticipating newly emerging public interest questions**.

- Such an approach may be informed by, and evolve to resemble, **Offices of Technology Assessment** that exist in other countries to help proactively inform government regarding potential public interest questions around emerging technologies / engineering.

Range of Approaches for Visioning Process

	Scope / Frame?	Geography?	Engagement?	Depth / Duration?
A →	Technology & Society →	Canada+ →	All Stakeholders →	Continuous
	Expanded Engineering	Canada	Professional Stakeholders	
			Engineering Stakeholders	Significant
	Traditional Engineering		Eng. Reg. Stakeholders	
B →	Eng. Regulation →	Ontario →	PEO Members & Staff →	Limited

Scenarios

Recommend Scenario A

With good process design and effective collaboration with other actors, option A is a practical approach that establishes needed feedback loops to ensure PEO remains aligned with its North Star. It enables PEO to play a convening and leadership role among regulators, technologists, and the engineering community to catalyze efforts focused on engineering and the public interest. It bridges the engineering community into conversations that are shaping our rapidly changing world.

Framing
the Automated
Vehicle
Landscape

Toward a Safe, Equitable,
Efficient, and Integrated
Mobility Future

MaRS Solutions Lab

Example of a robust, practical and tangible coalition effort to explore public interest questions around an emerging technology / field of engineering.

Click here to read the full report.

Randomly selected Citizens' Assemblies are the foundation of a deliberative wave of both government and public institution's efforts to re-engaging the citizens.

Engineers can re-engage with a representative and inclusive public that is willing to learn together, deliberate together, define social 'failure' and formulate shared recommendations.

This is a design problem with a tested solution.

PEO Leads The Way Globally In Ensuring Technology is Beneficial For All
June, 2030 - New York Times

Ten years ago the PEO embarked on an ambitious plan to protect the public interest around new technologies. Collaborating with key players such as innovation hubs (MaRS Discovery District), standard bodies (IEEE), advocacy bodies (OSPE), tech organizations (ICTC), academia (ISSP), and other professions (CBA), PEO was able to create an organization that combines the stability of a regulator with the innovative capacity of a tech startup. The consortium proactively spots and addresses issues around emerging technologies. A cornerstone of the new approach is citizen review committees modeled off of patient advisory committees in healthcare. Increasingly international companies and engineers are seeking certificates of authorization and licensure in Ontario as a way of demonstrating commitment to the gold standard of engineering ethics.
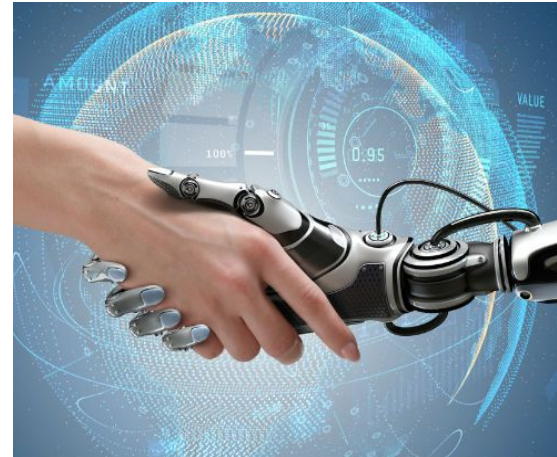
Statistic:

10 years ago less than half of Canadians agreed that technology was making the world a better place. Today as a result of PEO's leadership, over 90% agree!

"As Professional Engineers we have an obligation to ensure that we are stewarding the increasingly powerful technologies we create for the benefit of all."

2030 PEO Registrar

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Appendix

Appendix

Here are links to the key documents:

- [Summary Report (2-page)](#)
- [Conference Harvest Doc](#)
- [Conference Raw Notes](#)
- [Conference Slides](#)
- [Attendee List](#)
- [Facilitator Guide](#)
- [Facilitator Reflections](#)
- [Participant Emails – Day Of Conference](#)
- [Post Workshop Survey Questions (not yet converted to survey platform)](#)
- [Contingency Email (in case of Zoom meeting failure)](#)
- [Tech Sheet (that was shared in the prep email)](#)