



Diversity and Inclusion

Progression Framework Report 2021

FOR PROFESSIONAL ENGINEERING INSTITUTIONS

Report authors

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Foreword

We are delighted to present the report of the 2021 Diversity and Inclusion (D&I) benchmarking exercise for engineering and science. This is the result of collaborative work between the Royal Academy of Engineering, the Science Council, and their member organisations who assessed progress since the last benchmarking exercise in 2017. It highlights a number of important findings that our community will use to drive further change.

We would like to extend a personal thank you to all the organisations that have taken part and for the collective willingness to share insight and developments so that we can learn and make lasting change together. The commitment to increasing inclusivity across all our activities, and to lead further change, is evident. With the right level of ambition, we are confident we can make even more progress together across the engineering and science community.

Within this year's report, there is a sense that organisations have increased their rigour of assessment. With this, we welcome the significant change in engagement of all science and engineering bodies involved, ensuring strong leadership on change relating to D&I plus the integration of D&I strategies into core activity. This provides firm foundations for action and a collective shift in culture towards further inclusivity.

Whilst there has been a lot of activity to increase diversity and inclusion across our professions for some time now, evidence continues to show that we need to extend this focus beyond gender to the inclusion of all groups, for the benefit of both individual engineers and scientists and the profession as a whole.

Progress is being made in many areas which is to be celebrated, notably in increasing gender representation on boards and in leadership positions. There has also been

some increase in representation of people with minority ethnic backgrounds in these board and leadership positions.

However, the variability in data collection has led to challenges in our understanding of progress.

The report suggests that, as a community, we need to do more to understand the diversity of our membership and teams as a foundation stone for our ability to develop more inclusive activities and benefits for the community we serve, plus our quest to develop inclusive cultures for the teams and volunteers who work with and for our organisations.

What is proving helpful is the consistent sharing of progress and ideas for change across our community, and we welcome the recommendation that we continue to nurture our ability to learn from and support each other to make impactful change through communities of practice.

We recognise the considerable amount of energy and commitment of those who have led D&I development work: thank you! The report raises an important point about recognising and resourcing development activity related to D&I. This will be especially important as more of what we do is embedded, and more challenging areas tackled to ensure sustained progress over time.

So, do read this report with interest and curiosity. We hope that the findings will create further impetus for positive change to support the development of a culture where all engineers and scientists thrive, benefiting individuals, our community, and the wider engineering and science workforce.

Helen Gordon
Chief Executive, Science Council

Dr Hayaatun Sillem CBE
CEO, Royal Academy of Engineering

Executive summary

1. The Framework

This report presents the key findings of the 2021 Progression Framework 2.0 benchmarking exercise for professional engineering institutions (PEIs).¹

The Progression Framework was developed in late 2016 in a collaboration between the Royal Academy of Engineering and the Science Council, with the aim of helping professional bodies track and plan progress on diversity and inclusion, and subsequently updated in 2020 as Progression Framework 2.0.

Progression Framework 2.0 sets out four levels of good practice on diversity and inclusion in 10 areas of activity of professional engineering institutions and scientific bodies, and provides a framework for data collection on diversity and inclusion (D&I).

The 10 areas of activity are:

1. Governance and leadership
2. Membership and professional registration
3. Meetings, conferences and events
4. Education, training and examinations
5. Accreditation of education and training
6. Prizes, awards and grants
7. Communications and marketing
8. Outreach and engagement
9. Employment
10. Monitoring and measuring

The four levels of good practice are:

- **Level 1:** Initiating
- **Level 2:** Developing
- **Level 3:** Engaging
- **Level 4:** Transforming

Further details of the Progression Framework, including guidance on completion, can be found on the [Royal Academy of Engineering website](#).

¹ In this report, the term 'PEI' also covers engineering organisations and their regulatory bodies, such as the Royal Academy of Engineering, the Engineering Council and EngineeringUK.

2. Participation

40 separate organisations participated in the 2021 Progression Framework 2.0 benchmarking exercise. This is five more organisations than in 2017.

22 submissions were received from scientific bodies, and 24 from professional engineering institutions. Six participating organisations are both scientific bodies and professional engineering institutions.

Participating organisations were asked to self-assess their progress on diversity and inclusion in relation to Progression Framework 2.0, and to provide diversity monitoring data on governance, leadership, membership, examinations, prizes, awards and grants, and employment.

This report presents the key findings from the benchmarking exercise for all participating PEIs, including those that are also members of the Science Council. The report includes:

- headlines from the diversity monitoring data submitted by PEIs
- the Progression Framework self-assessment results for PEIs
- a summary of PEI strengths, areas for development, priorities, challenges, and recommendations for future action
- comparison with the results of the 2017 benchmarking exercise, where possible.

3. Diversity monitoring data

In 2021 participants were asked to provide detailed diversity monitoring data across five areas:

- governance on boards and committees
- membership and registration
- examinations
- prizes, awards and grants
- employment, including senior leadership.

Two sets of benchmarking data were generated from the submissions, building on the benchmarks established in 2017 and reflecting those sections of the Framework in which most robust analysis was possible.

- gender and ethnicity on the board and in the senior leadership (CEO, senior management team) of participating organisations
- gender and ethnicity in membership and registration.

The pattern of responses shows that:

- More PEIs provided data on gender than on any other aspect of diversity. Data on age was also often provided.
- Far fewer PEIs provided data on ethnicity than on gender and age, and fewer PEIs submitted data on ethnicity in 2021 than in comparable sections for 2017.
- Very limited data was submitted across other diversity characteristics.

3.1 Diversity on boards

There has been an increase in the representation of women and people from minority ethnic backgrounds on PEI boards since 2017.

- In 2021, 14 PEIs provided data on the representation of women on their boards.
- On average, PEIs have 30% women on their boards. This is an increase on 2017, where on average PEIs had 26% women on their boards
- Fewer PEIs provided data on ethnicity on the board than on gender. Seven PEIs provided data on the representation of people from minority ethnic backgrounds on their boards, compared with 15 in 2017.

- On average, PEIs have 18% people from minority ethnic backgrounds on the board. This is also an increase on 2017, where on average PEIs had 10% people from minority ethnic backgrounds on their boards.

3.2 Diversity in organisational leadership

- 18 PEIs provided data on women in the senior leadership of their organisations (CEO, senior management team etc). Women comprise on average 50% of those in senior leadership positions in PEIs.
- 12 PEIs provided data on people from minority ethnic backgrounds in senior leadership positions. People from minority ethnic backgrounds comprise on average 15% of those in senior leadership positions in PEIs.

3.3 Diversity in PEI membership and registration

There has been an increase in the representation of women and people from minority ethnic backgrounds in PEI membership since 2017, though the figures on ethnicity must be treated with caution.

- 16 PEIs provided data on women in membership. On average, women comprise 17% of PEI members. This is an increase from 2017, when women represented 13% of members.
- 14 PEIs provided data on women registrants. Women represent 12% of registrants. The 2017 benchmark did not distinguish between members and registrants.²
- Four PEIs provided data on people from minority ethnic backgrounds in membership, compared to seven in 2017. People from minority ethnic backgrounds comprise 26% of people in PEI membership in 2021, compared to 21% in 2017.
- Only two PEIs provided data on registrants from minority ethnic backgrounds; on average people from minority ethnic backgrounds represent 21% of registrants. However, given the small number of data points in membership and registration, both these averages must be treated with caution.

3.4 Diversity in examinations, prizes, awards, and grants

- Four PEIs provided usable data on gender and examination pass rates (out of the 14 PEIs for which this data request was relevant). The average pass rate for women was 60% and for men, 66%.
- One PEI provided data on ethnicity and examination pass rates.
- 14 PEIs provided data on allocation of prizes, awards and grants by gender. Women received 33% of prizes, awards and grants.
- Eight PEIs provided data on the allocation of prizes, awards and grants by ethnicity. People from minority ethnic backgrounds received 35% of prizes, awards and grants.

4. Self-assessment overview

The table below presents the median self-assessment scores for PEIs that participated in the 2021 Progression Framework 2.0 benchmarking exercise. It also shows the median self-assessment scores for all participating organisations for comparison.

In summary:

- PEIs assess themselves to be at Level 2, in eight of the 10 areas of Progression Framework 2.0, and at Level 1, in 2 of the 10 areas.
- PEIs self-assessed their performance to be strongest in Communications and marketing (Section 1.07), with 11 organisations assessing themselves at Levels 3 and 4 in this section. In 2017 PEIs self-assessed their performance to be strongest in Governance and leadership.

² See page 16 for a description of the difference between members and registrants.

- More PEIs self-assessed their performance to be at Level 1 in Accreditation of education and training, and Prizes, awards and grants, than any other section, with 11 organisations assessing themselves to be at Level 1 in both of these sections (Sections 1.05 and 1.06 respectively). In 2017 PEIs assessed themselves to be weakest in similar areas (**Table 1**).

Overall, there has been little change in the self-assessment of PEIs since 2017. Updates to the Framework between 2017 and 2021 mean that direct comparison across all sections is not possible; however only one of the six comparable sections (Section 1.06, Prizes, awards and grants) shows an increase in overall self-assessment level, with the median moving from Level 1 in 2017, to Level 2 in 2021.

5. Strengths, areas for development, priorities, challenges, and recommendations

The individual benchmarking reports to participating organisations include feedback on strengths, areas for development, and recommendations for action. In completing Progression Framework 2.0, PEIs themselves identified priorities for action and challenges ahead. The headlines for the strengths, areas for development, priorities, and challenges facing PEIs on diversity and inclusion are as follows. In addition, a small number of cross-cutting recommendations are made by the consultants conducting the benchmarking exercise on behalf of the Royal Academy of Engineering and Science Council:

5.1 Strengths

Overall, six strengths were identified from across all participating PEIs. These are:

Strength 1 Building firm foundations

Putting systems, policies, and practices in place to support progress on diversity and inclusion.

Strength 2 Establishing good governance

Ensuring systems of governance are in place to support progress on diversity and inclusion, underpinned by active senior level engagement.

Strength 3 Extending the scope of work beyond gender

Expanding the scope of PEI work beyond gender.

Strength 4 Engaging members

Taking an inclusive and participative approach on diversity and inclusion, working in partnership with members to establish priorities, plans, and activities for the way forward.

Table 1

	1.01 Governance and leadership	1.02 Membership and professional registration	1.03 Meetings, conferences and events	1.04 Education, training and examinations	1.05 Accreditation of education and training	1.06 Prizes, awards and grants	1.07 Communications and marketing	1.08 Outreach and engagement	1.09 Employment	1.10 Monitoring and measuring
Median self-assessment level for all participating organisations	2	2	2	2	1	2	2	2	2	2
Median self-assessment level for all PEIs	2	2	2	1	1	2	2	2	2	2

Strength 5 Ensuring inclusive processes

Reviewing processes, procedures, and documentation to remove bias and ensure inclusive approaches.

Strength 6 Increasing integration into day-to-day work

Integrating diversity and inclusion into the day-to-day work of PEI colleagues and the organisation.

5.2 Areas for development

Six areas for development were identified in the feedback to PEIs. Participating organisations are at different stages in their work on diversity and inclusion, so strengths in some PEIs are areas of development for others. The six development areas are:

Area 1 Securing and sustaining commitment

Securing and sustaining stakeholder commitment, including leadership commitment.

Area 2 Strategies, plans and priorities

Taking a more planned approach to the work on diversity and inclusion, developing and articulating strategies, plans, and priorities for the future.

Area 3 Formalising the approach

Continuing the move from an ad hoc to a more formal approach on diversity and inclusion.

Area 4 Ensuring further integration

Continuing the integration of diversity and inclusion into the day-to-day work of colleagues and the organisation.

Area 5 Data gathering, monitoring and measuring

Data gathering on diversity and inclusion remains a major challenge for PEIs. The feedback to 21 of 24 professional engineering institutions identified data gathering, monitoring and measuring as an ongoing area for development.

Area 6 Extending the scope of the work beyond gender

Many PEIs are taking action to extend the scope of their work beyond gender, but for many others this remains an ongoing area for development.

5.3 Priorities for action

PEIs were asked to identify the priorities on diversity and inclusion that will inform their work for the next 12 to 24 months. Five broad priorities were identified:

Priority 1 D&I governance, strategy and planning

Continuing the work to strengthen governance, strategy, and planning on diversity and inclusion.

Priority 2 Data gathering

Establishing systems to gather diversity data and making effective use of the data that is gathered.

Priority 3 Developing training and guidance

Building the capabilities of stakeholders (Trustees, staff, members, and other stakeholders) through training and guidance on diversity and inclusion.

Priority 4 Targeted activities for specific demographics

Targeted activities for specific demographic groups, particularly in relation to membership.

Priority 5 Building external presence

Developing and enhancing external presence on diversity and inclusion, particularly on-line and social media presence.

5.4 Challenges

PEIs identified four main challenges ahead:

Challenge 1 Data collection

Establishing systems to gather diversity data and making effective use of the data that is gathered.

Challenge 2 Resourcing the work on diversity and inclusion

Over half of PEIs identified challenges relating to resourcing the work on diversity and inclusion, particularly staffing.

Challenge 3 Securing and sustaining engagement

Securing and sustaining stakeholder engagement on diversity and inclusion.

Challenge 4 The wider context

The lack of diversity in the wider context of the engineering profession remains a significant challenge.



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5.5 Recommendations

The report concludes with five recommendations for PEIs to support future progress on diversity and inclusion:

Recommendation 1 Identify and address barriers to data gathering

As in 2017, several PEIs have mechanisms in place to gather data on the age and gender of members. Far fewer monitor data on any other aspect of diversity. Monitoring data is key to assessing progress on diversity and inclusion. We recommend that all PEIs extend data collection and monitoring activity beyond gender and age to cover all aspects of diversity, and in particular ethnicity. The lack of robust data makes it a challenge to properly identify barriers, assess progress or target action to increase the participation of under-represented groups in engineering.

Some of the barriers which PEIs identified on data gathering are around making the case for data to be gathered: resourcing and technology. There may be other challenges too, relating to the relational aspects of gathering data. It is recommended that PEIs take steps to share, explore and fully understand the barriers to data gathering, and prioritise action to expand monitoring activity to cover all aspects of diversity, ensuring that by the time of the next benchmarking exercise, all participating organisations are also able to provide (as a minimum) robust data on ethnicity on the board, in leadership, in membership, and in registration (where relevant).

Recommendation 2 Broaden the focus of activity to other under-represented groups

It is encouraging to see that PEIs are continuing to broaden the scope of their work on diversity and inclusion beyond gender, and that seven PEIs describe themselves as beginning to take an intersectional approach. However, this does not yet go far enough. We would encourage all organisations to broaden the focus of their activity to include other under-represented groups, and in addition to take an intersectional approach to understanding how (for instance) gender and ethnicity intersect to impact the lives of minority ethnic women in science and engineering.

Recommendation 3 Resource and recognise the work

Feedback from the submissions suggests that the work on diversity and inclusion is often under-resourced. To make progress, this work needs to be adequately resourced. We recommend that all organisations review how the work on diversity and inclusion is currently being resourced and make changes as necessary. As a first step PEIs and scientific bodies should share how they are resourcing diversity and inclusion in their organisations including the reward and recognition strategies for member volunteers.

Recommendation 4 Use the Framework to plan for progress

As noted in the conclusions above, there is little overall movement in the self-assessment of participating organisations on their work on diversity and inclusion since 2017. Our recommendation is for every organisation to use the Framework to plan for future progress. We also recommend that all organisations consider setting a time-bound goal to demonstrate visible progress across all sections of the Framework that are relevant to them.

Recommendation 5 Establish a community of practice

The ongoing exchange of ideas and practices is strongly encouraged across all PEIs. Our recommendation is that the Royal Academy of Engineering, in collaboration with the Science Council, supplements existing best practice exchanges by establishing an ongoing cross-profession 'community of practice', meeting on a regular basis (two or three times a year), with the agenda set by participating organisations, to facilitate peer-to-peer exchange and action learning on priorities, challenges, and solutions on diversity and inclusion across the professions.

Section 1

Introduction

This report presents the key findings of the 2021 Diversity and Inclusion Progression Framework 2.0 benchmarking exercise for PEIs.

The Progression Framework was first developed in a collaboration between the Royal Academy of Engineering and the Science Council in late 2016. In 2020 the contents of the original Progression Framework were reviewed by a sub-group of the Progression Framework Steering Group consisting of Science Council members and PEIs, to ensure the Framework continued to reflect good practice four years on from its original publication. A small number of changes were made, resulting in the publication of Progression Framework 2.0. A summary of the changes and further information about the development of Progression Framework 2.0 are provided in Appendix 1.

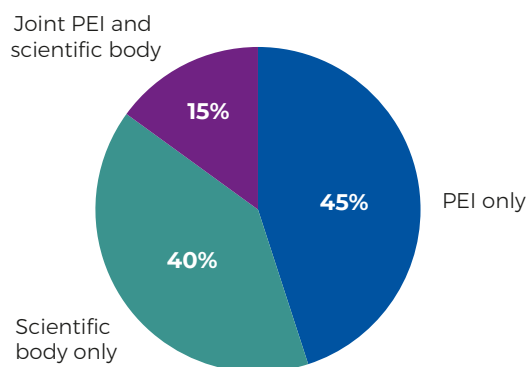
This report presents the key findings from the benchmarking exercise for all participating PEIs, including those that are also members of the Science Council. Each participant in the 2021 benchmarking exercise has already received a confidential report containing specific feedback on the performance of their own organisation.

This report includes PEI-specific benchmarking results, strengths, areas for development, priorities, challenges, and recommendations for future action. It also includes comparison with the results of the 2017 benchmarking exercise, where possible.

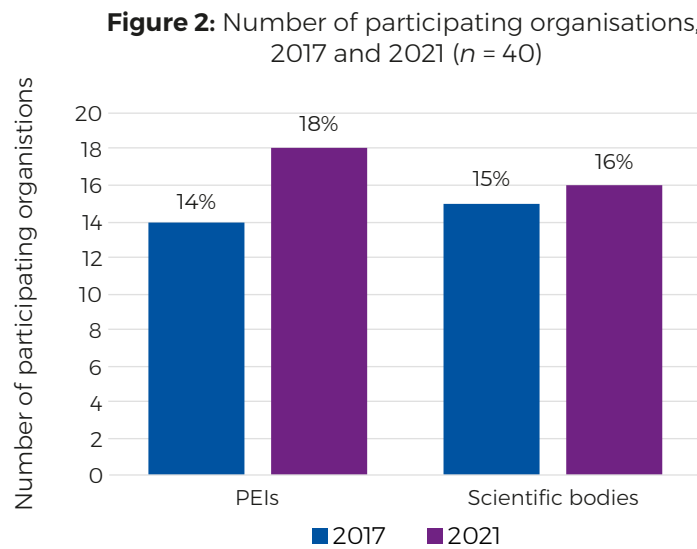
1.1 Participation overview

In the 2021 Progression Framework 2.0 benchmarking exercise, 40 separate organisations participated: 22 submissions were received from scientific bodies, and 24 from professional engineering institutions (PEIs). Six participating organisations are both scientific bodies and professional engineering institutions (**Figure 1**).

Figure 1: Participants in the 2021 benchmarking exercise ($n = 40$)



Four more PEIs (and five more organisations in total) participated in the Progression Framework 2.0 benchmarking exercise in 2021, compared to 2017 (**Figure 2**).



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Section 2

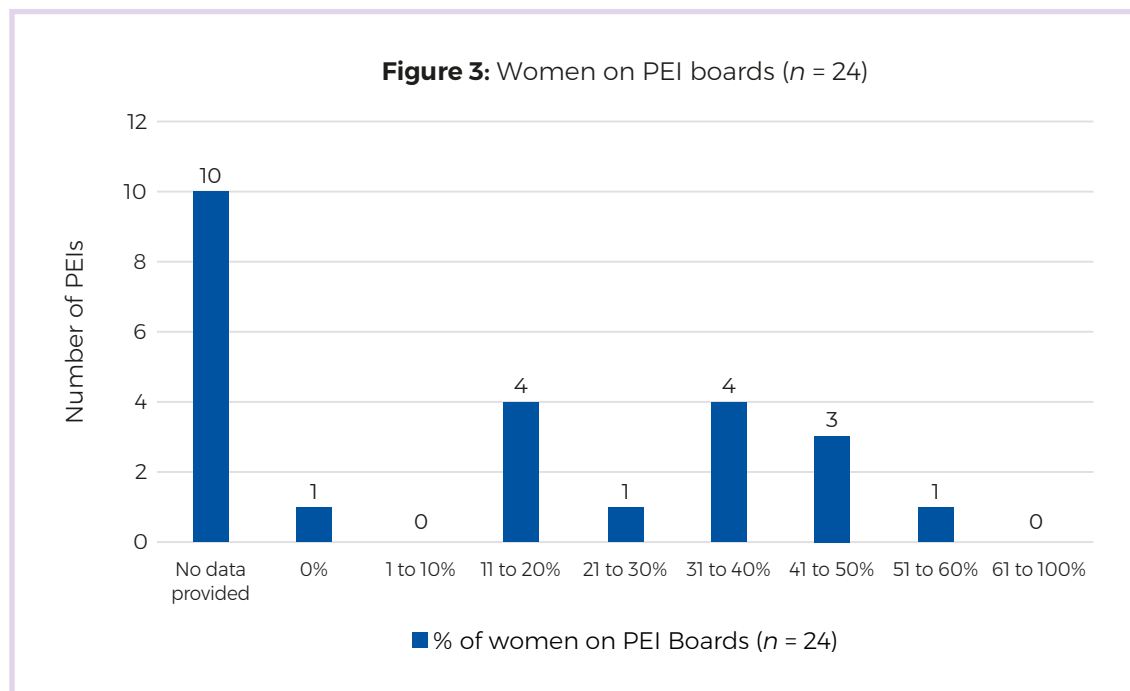
Diversity on PEI boards and leadership

2.1 Diversity on PEI boards

Women on PEI boards

There has been an increase in the representation of women on PEI boards since 2017.

Fourteen PEIs provided data on the representation of women on their boards. On average, PEIs have 30% women on their boards, compared to an average of 26% in 2017. Eight PEIs have more than 30% women on their boards. Women also represent 30% of those on all PEI boards and committees (**Figure 3**).

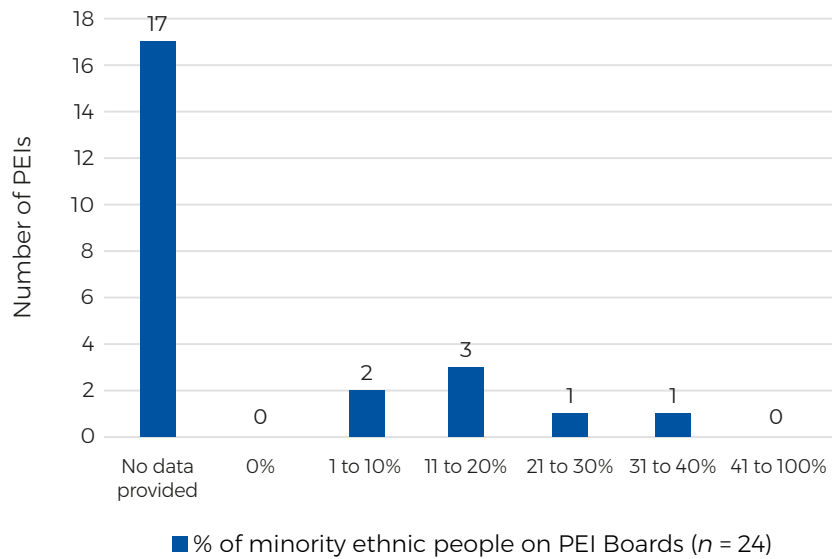


Ethnicity on PEI boards

As in 2017, fewer PEIs provided data on ethnicity on the board than on gender. Seven PEIs provided data on the representation of people from minority ethnic backgrounds on their boards, compared with 15 in 2017. On average, PEIs have 18% people from minority ethnic backgrounds on the board, compared to an average of 10% in 2017. However, the small number of organisations providing data on ethnicity at board level means this apparently positive trend must be interpreted with caution.

People from minority ethnic backgrounds represent 16% of those on all PEI boards and committees (**Figure 4**).

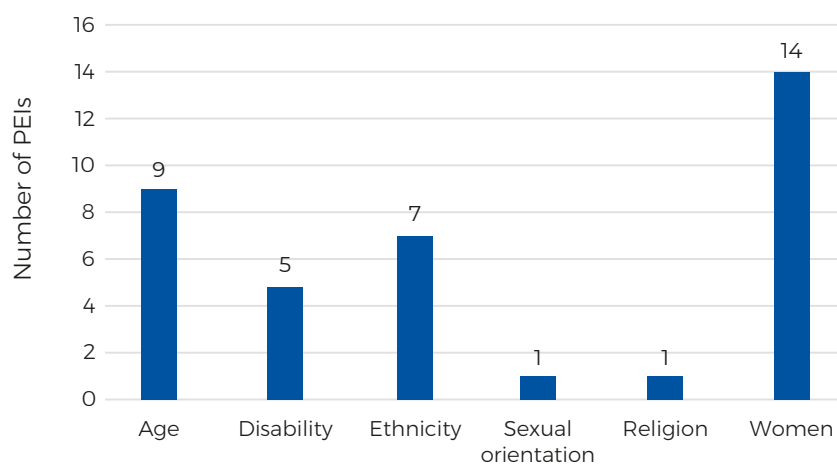
Figure 4: People from minority ethnic backgrounds on PEI boards (n = 24)



Other diversity board metrics

- Five PEIs provided data on disability diversity on the board; all five responded that there are no people with disabilities on their boards. Six PEIs provided data on disability diversity on all boards and committees; on average people with disabilities comprise 4% of all PEI boards and committees.
- One PEI provided data on the representation of LGBTQ+ people on the board, and one PEI provided data on religious diversity on the board.
- Nine PEIs provided data on the age of board members. Over 60% of PEI board members are aged 51 and above, with just over 2% aged below 29 years (**Figure 5**).

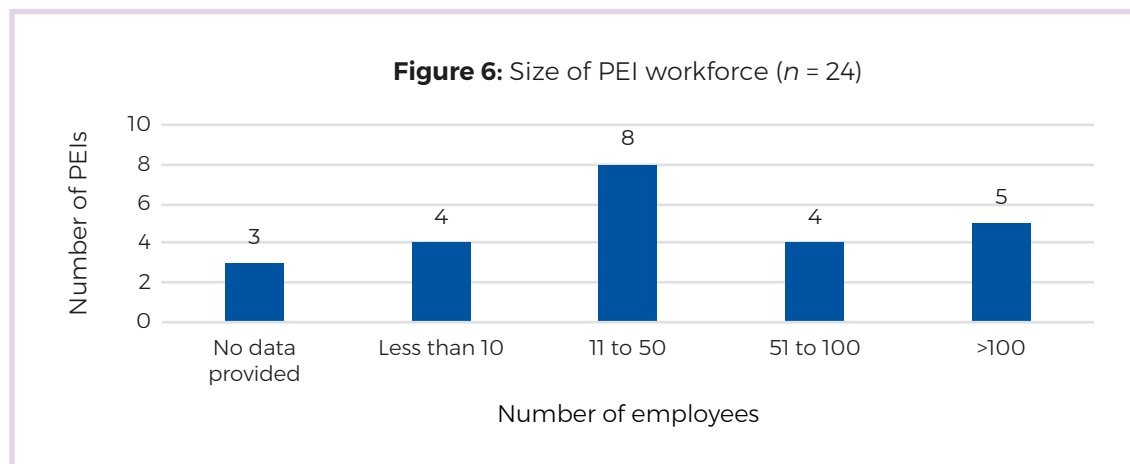
Figure 5: Board diversity data submitted by PEIs



2.2 Diversity in organisational leadership

Workforce overview

- 21 PEIs provided data on the size of their workforce.
- Between them, PEIs participating in the benchmarking exercise employ nearly 3,000 people.
- The PEI workforce averages 90 people, but this figure conceals a huge range in size of organisation. Four PEIs employ fewer than 10 people (one has no paid employees) and five employ more than 100 people (**Figure 6**).

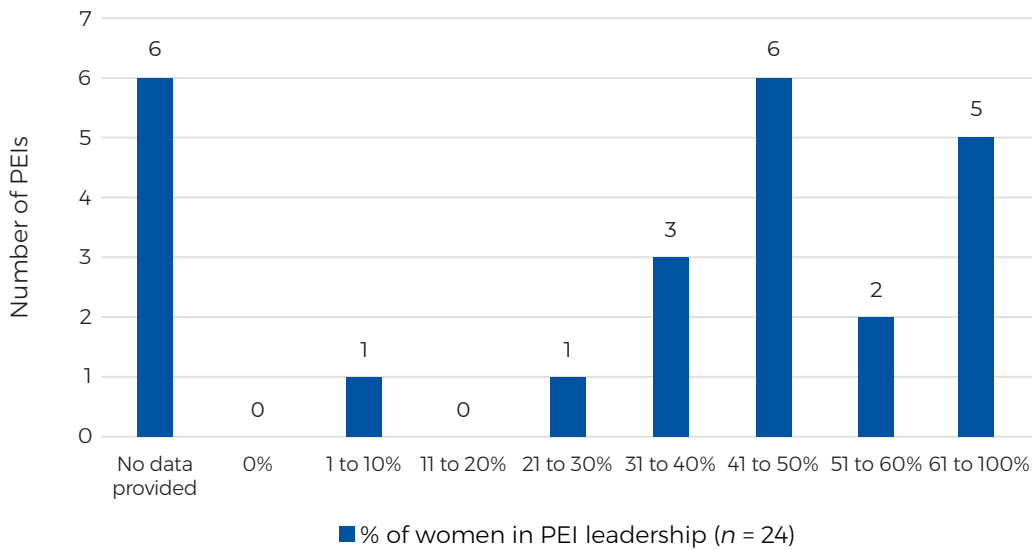


- 18 PEIs provided data on the representation of women in the PEI workforce. All have a workforce that is more than 50% women. Women comprise on average 67% of the PEI workforce.
- 11 PEIs provided data on the representation of people from minority ethnic backgrounds in the PEI workforce, compared with 17 in 2017. People from minority ethnic backgrounds comprise on average 18% of the PEI workforce.
- Ten PEIs provided data on the representation of people with disabilities in the workforce. On average 3% of the PEI workforce have a disability.
- Six PEIs provided data on the representation of LGBTQ+ people in the workforce. On average 2% of the PEI workforce is LGBTQ+.
- 17% of the PEI workforce is aged 29 and under, and 9% is aged 61 and over.

Diversity in senior leadership

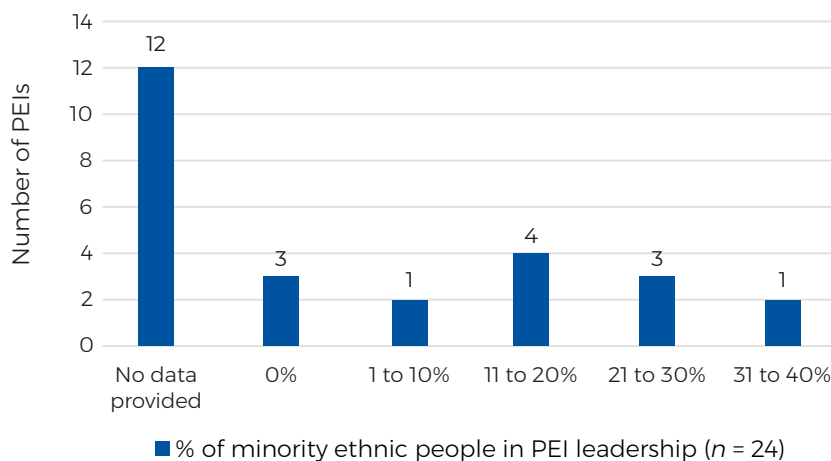
- 18 PEIs provided data on the representation of women in senior leadership (CEO, senior management team etc). Seven PEIs have a senior leadership that is more than 50% women, compared to five in 2017. In 2021, women comprise on average 50% of those in senior leadership positions (**Figure 7**).

Figure 7: Women in PEI senior leadership



- 12 PEIs provided data on the representation of people from minority ethnic backgrounds in senior leadership. People from minority ethnic backgrounds comprise on average 15% of those in senior leadership positions. Three PEIs said they have no people from minority ethnic backgrounds in senior leadership, compared with 12 in 2017 (**Figure 8**).

Figure 8: People from minority ethnic backgrounds in PEI senior leadership



- Nine PEIs provided data on the representation of people with disabilities in senior leadership, of which only one reported having any people with disabilities in senior leadership.
- Seven PEIs provided data on the representation of LGBTQ+ people in senior leadership, of which none reported having any LGBTQ+ people in senior leadership.
- Three PEIs provided data on religious diversity in senior leadership.

Section 3

Diversity in PEI membership and registration

Note: Defining membership and registration

A member of a PEI is someone who receives membership benefits such as access to information, networks, events, training, and resources. Members can usually join a PEI at any stage of their career and early-career engineers and technicians are encouraged to join one or more relevant PEIs (many have student membership) to access training and support. You can be a member and not yet a registrant.

Registrants are engineers and technicians who have achieved professional registration where their competence and commitment has been independently

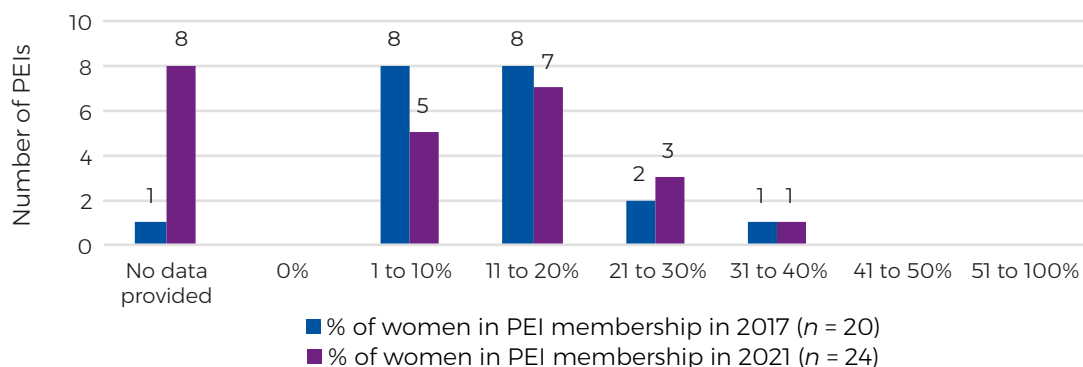
and thoroughly assessed by their peers. There are currently over 229,000 people professionally registered as Engineering Technician (EngTech), Incorporated Engineer (IEng), Chartered Engineer (CEng), Information and Communications Technology Technician (ICTTech). In order to gain these titles applicants first join a relevant professional engineering institution licensed by the Engineering Council to assess candidates. There are also engineers and technicians on the national Register classified as Interim Registrants, having registered their intention to work towards one of the professional titles above.

3.1 Diversity in membership

There has been an increase in the representation of both women and people from minority ethnic backgrounds in PEI membership since 2017.

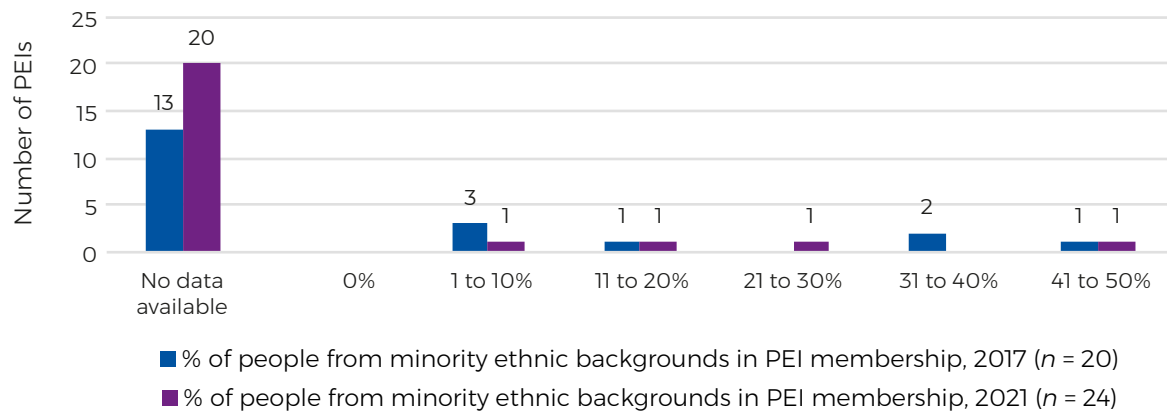
- 16 PEIs provided data on gender in membership (fewer than in 2017). On average women comprise 17% of PEI members in 2021 (compared to 13% in 2017). Five PEIs providing membership data have 10% women in membership or less, and 11 have 11% or more (**Figure 9**).

Figure 9: Women in PEI membership



- PEIs are less likely to provide data on ethnicity in membership than on gender. Four PEIs reported on the percentage of members from minority ethnic backgrounds (fewer than in 2017). On average, people from minority ethnic backgrounds comprise 26% in PEI membership, compared to 21% in 2017 (**Figure 10**).

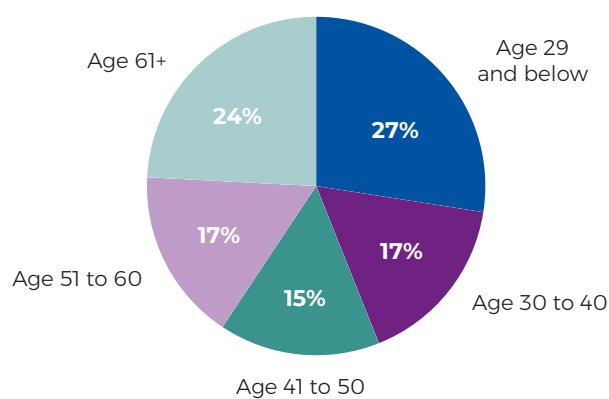
Figure 10: People from minority ethnic backgrounds in PEI membership



Other membership diversity metrics:

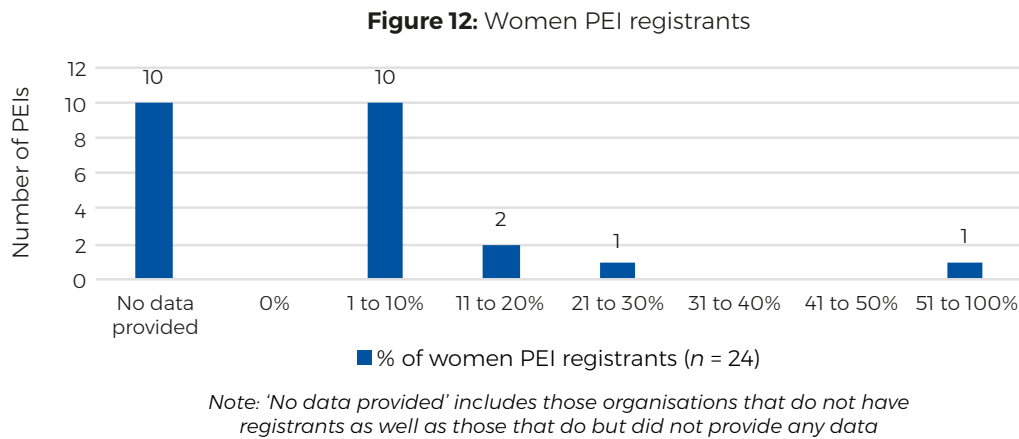
- Five PEIs provided data on people with disabilities in PEI membership. On average, people with disabilities comprise 4% of PEI membership.
- Three PEIs provided data on the representation of LGBTQ+ people in membership. On average, LGBTQ+ people comprise 3% of PEI membership.
- Four PEIs provided data on religious diversity in membership.
- 14 PEIs provided data on age in membership. Just over one quarter (27%) of PEI members are aged 29 and below (**Figure 11**).

Figure 11: Age of PEI membership

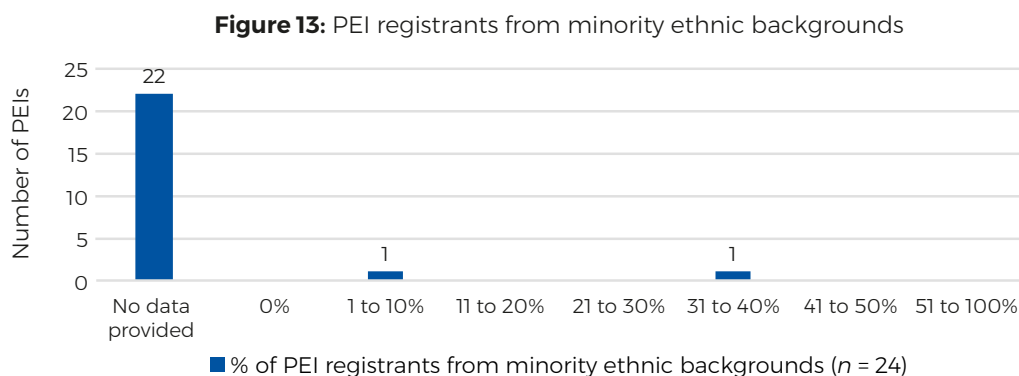


3.2 Diversity in registration

- 14 PEIs provided data on gender diversity and registration, distinct from membership. On average, women represent 12% of PEI registrants. A small number of organisations provided information on more than one register. In such cases data from the first register provided (which in most cases was CEng) was used in calculating these averages (**Figure 12**).



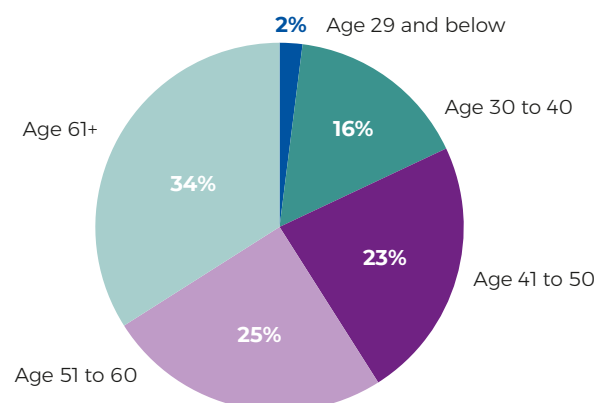
- Only two organisations provided data on ethnicity and registration, distinct from membership (**Figure 13**).



Other registrant diversity metrics:

- Two PEIs provided data on disability diversity and registration.
- One PEI provided data on the representation of LGBTQ+ people in registration.
- Two PEIs provided data on religious diversity and registration.
- 12 PEIs provided data on age and registration. 2% of PEI registrants are aged 29 and below (**Figure 14**).

Figure 14: Age of PEI registrants



Section 4

Diversity in examinations, prizes, awards, and grants

4.1 Diversity in examinations

Not all PEIs conduct examinations, and not all those that conduct examinations provided data on diversity.

- Four PEIs provided usable data on gender and examination pass rates (out of the 14 PEIs for which this data request was relevant). The average pass rate for women was 60%, compared to a pass rate for men of 66%.
- One PEI provided data on ethnicity and examination pass rates, and one provided data on disability and examination pass rates.
- No PEIs provided any data on LGBTQ+ and examination pass rates.
- Five PEIs provided data on age and examination pass rates.

4.2 Diversity in prizes, awards, and grants

PEIs awarded over 1,200 prizes, awards, and grants in the last 12 months.

- 14 PEIs provided data on allocation of prizes, awards, and grants by gender. On average, women received 33% of prizes, awards, and grants.
- Eight PEIs provided data on the allocation of prizes, awards, and grants by ethnicity. On average, people from minority ethnic backgrounds received 35% of prizes, awards, and grants.
- Two PEIs provided data on the allocation of prizes, awards, and grants to people with disabilities, and one on allocation of prizes, awards, and grants to LGBTQ+ people. Two provided data on religious diversity and the allocation of prizes, awards, and grants.
- Eight provided data on the allocation of prizes, awards, and grants by age. Over 50% of prizes, awards and grants went to people aged 29 and under (**Figures 15-17**).

Figure 15: PEI prizes, awards and grants to women, 2017 and 2021

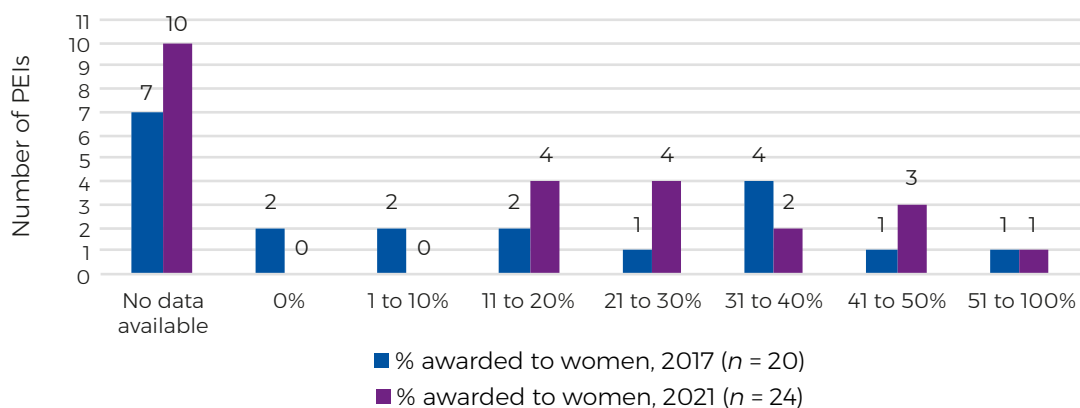


Figure 16: PEI prizes, awards and grants to people from minority ethnic backgrounds, 2017 and 2021

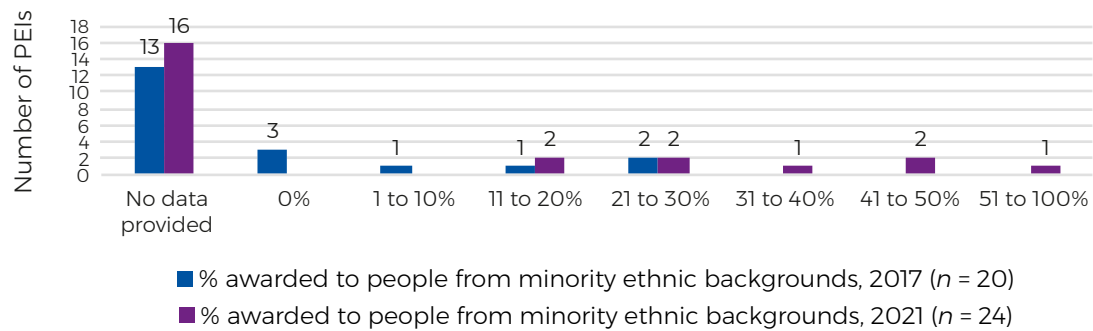
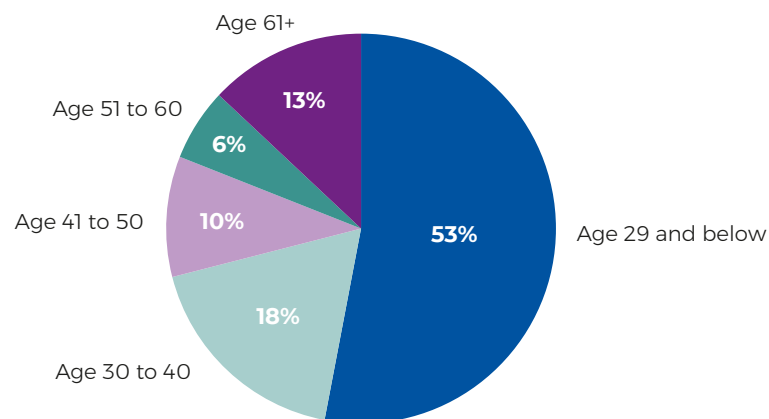


Figure 17: Prizes, awards and grants by age



Section 5

Progression Framework results for PEIs

5.1 Introduction

In completing the Progression Framework for the 2021 benchmarking exercise, participating organisations were asked to self-assess their progress against 10 areas of activity of PEIs and scientific bodies, as follows:

1. Governance and leadership
2. Membership and professional registration
3. Meetings, conferences and events
4. Education, training and examinations
5. Accreditation of education and training
6. Prizes, awards and grants
7. Communications and marketing
8. Outreach and engagement
9. Employment
10. Monitoring and measuring

Participants were asked to self-assess their progress in each of the 10 categories of relevance to them, by allocating a score as follows:

- score one where progress is self-assessed to be at Level 1 (Initiating)
- score two where progress is self-assessed to be at Level 2 (Developing)
- score three where progress is self-assessed to be at Level 3 (Engaging)
- score four where progress is self-assessed to be at Level 4 (Transforming).

Participants were not asked to self-assess at Level 0, but some did, so Level 0 is included in the analysis below.

Further details of the Framework, including guidance on completion, can be found on the [Royal Academy of Engineering website](#).

This section presents the median self-assessment scores for PEIs for each of the 10 sections of the Framework. It also compares these with median self-assessment scores for all participating organisations, and (where comparison is possible) with the results for 2017.

5.2 Self-assessment overview

In summary:

- PEIs assess themselves to be Level 2 in eight of the 10 areas of Progression Framework 2.0, and at Level 1 in two of the 10 areas.
- PEIs self-assessed their performance to be strongest in Communications and marketing (Section 1.07), with 11 organisations assessing themselves at Levels 3 and 4 in this section. In 2017 PEIs self-assessed their performance to be strongest in Governance and leadership.
- More PEIs self-assessed their performance to be at Level 1 in Accreditation of education and training, and Prizes, awards and grants, than any other section, with 11 organisations assessing themselves to be at Level 1 in both of these sections (Sections 1.05 and 1.06 respectively). In 2017 PEIs assessed themselves to be weakest in similar areas (**Table 2**).

Table 2

	1.01 Governance and leadership	1.02 Membership and professional registration	1.03 Meetings, conferences and events	1.04 Education, training and examinations	1.05 Accreditation of education and training	1.06 Prizes, awards and grants	1.07 Communications and marketing	1.08 Outreach and engagement	1.09 Employment	1.10 Monitoring and measuring
Median self-assessment level for all participating organisations	2	2	2	2	1	2	2	2	2	2
Median self-assessment level for all PEIs	2	2	2	1	1	2	2	2	2	2

5.3 Self-assessment by section

This section presents the self-assessment of PEIs, for each of the 10 sections of the Framework (**Figures 18–27**).

Figure 18: Section 1.01: Governance and leadership

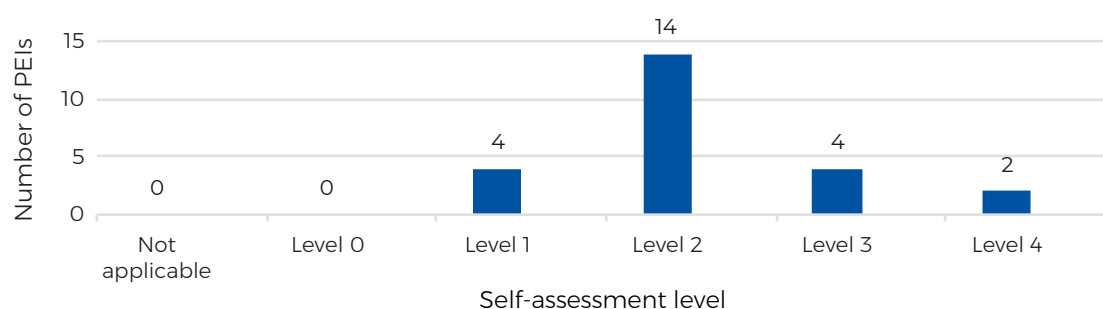


Figure 19: Section 1.02: Membership and professional registration

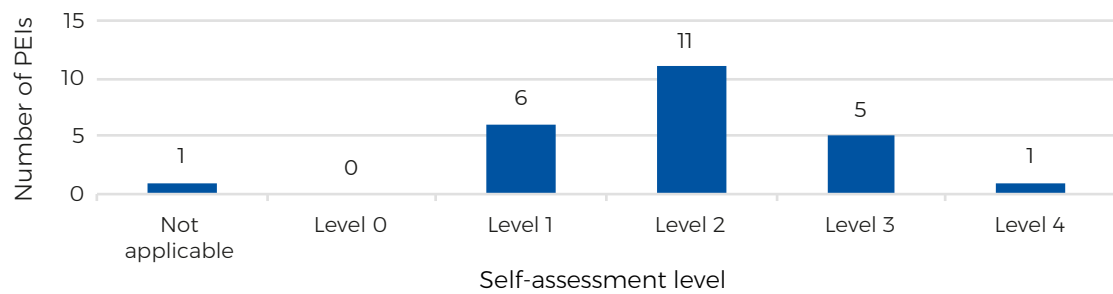


Figure 20: Section 1.03: Meetings, conferences and events



Figure 21: Section 1.04: Education, training and examinations

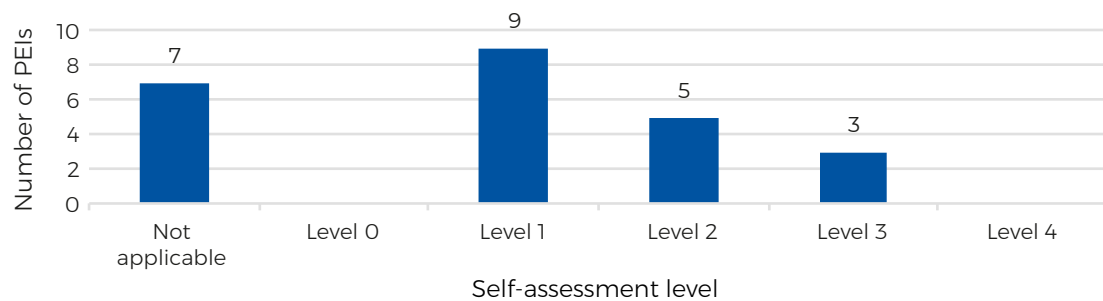


Figure 22: Section 1.05: Accreditation of education and training



Figure 23: Section 1.06: Prizes, awards and grants



Figure 24: Section 1.07: Communications and marketing

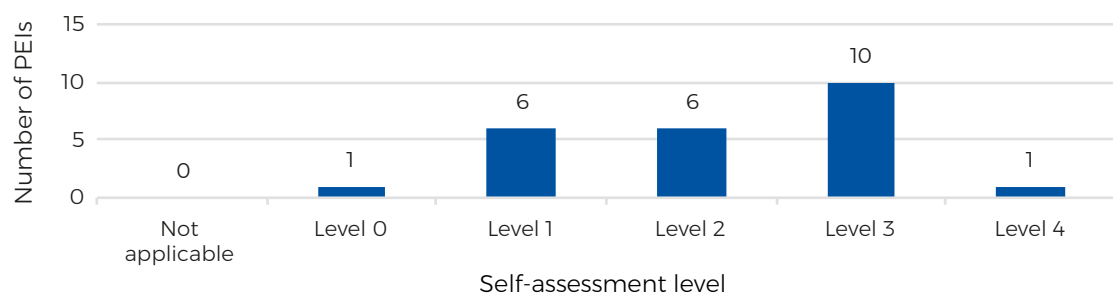


Figure 25: Section 1.08: Outreach and engagement

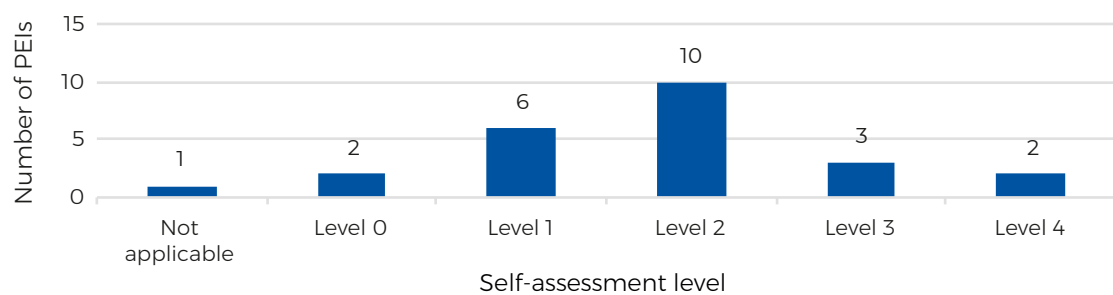


Figure 26: Section 1.09: Employment

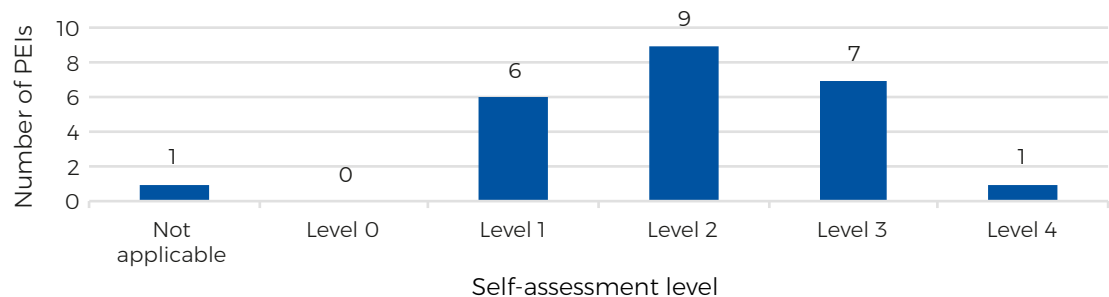
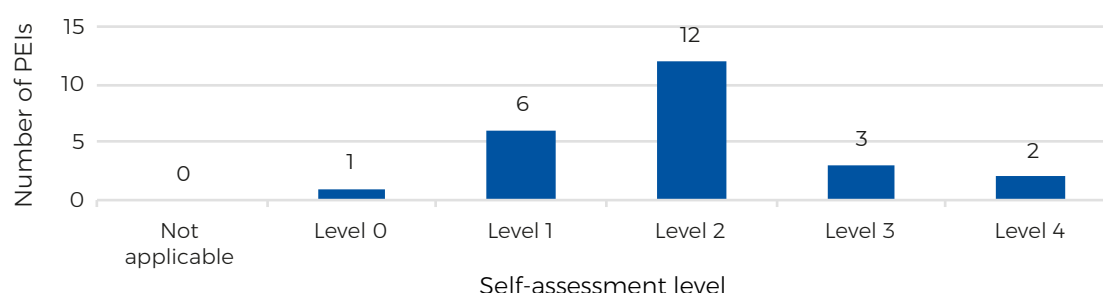


Figure 27: Section 1.10: Monitoring and measuring



5.4 Comparison with 2017

In 2017 the Framework had eight sections, expanded in 2021 to ten, to take into account feedback from participants in the first benchmarking exercise about the distinction between holding and accrediting education, training and examinations (2017 Section 4) and communications and marketing, outreach and engagement (2017 Section 6).

Table 3 shows how the Progression Frameworks from 2017 and 2021 map onto each other. The six highlighted sections are directly comparable year-on-year.

Table 3

PROGRESSION FRAMEWORK 2017	PROGRESSION FRAMEWORK 2021
Section 1: Governance and leadership	Section 1: Governance and leadership
Section 2: Membership and professional registration	Section 2: Membership and professional registration
Section 3: Meetings, conferences and events	Section 3: Meetings, conferences and events
Section 4: Education and training, accreditation and examinations	Section 4: Education, training and examinations
	Section 5: Accreditation of education and training
Section 5: Prizes, awards and grants	Section 6: Prizes, awards and grants
Section 6: Communications, marketing, outreach and engagement	Section 7: Communications and marketing
	Section 8: Outreach and engagement
Section 7: Employment	Section 9: Employment
Section 8: Monitoring and measuring	Section 10: Monitoring and measuring

Overall, there has been little change in the median self-assessment of PEIs since 2017. Updates to the Framework between 2017 and 2021 mean that direct comparison across all sections is not possible; however only one of the six comparable sections (Section 1.06, Prizes, awards and grants) shows an increase in self-assessment level, with the median moving from Level 1 in 2017, to Level 2 in 2021. The same holds true across all participating organisations (PEIs and scientific bodies combined) (**Table 4**).

Table 4

	1.01 Governance and leadership	1.02 Membership and professional registration	1.03 Meetings, conferences and events	1.06 Prizes, awards and grants	1.09 Employment	1.10 Monitoring and measuring
Median self-assessment level for all participating organisations, 2021	2	2	2	2	2	2
Median self-assessment level for all participating organisations, 2017	2	2	2	1	2	2
Median self-assessment level for all PEIs, 2021	2	2	2	2	2	2
Median self-assessment level for all PEIs, 2017	2	2	2	1	2	2

The graphs below compare the median self-assessment for PEIs for the six comparable sections of the Framework, in 2017 and 2021. The graphs show the percentage of participating organisations in each exercise that self-assessed at each of the four levels of the Framework. The direction of travel is towards higher self-assessment scores, but this does not yet translate into a difference in the median self-assessment in most sections of the Framework (**Figures 28–33**).

Figure 28: Section 1.01: Governance and leadership, 2017 and 2021

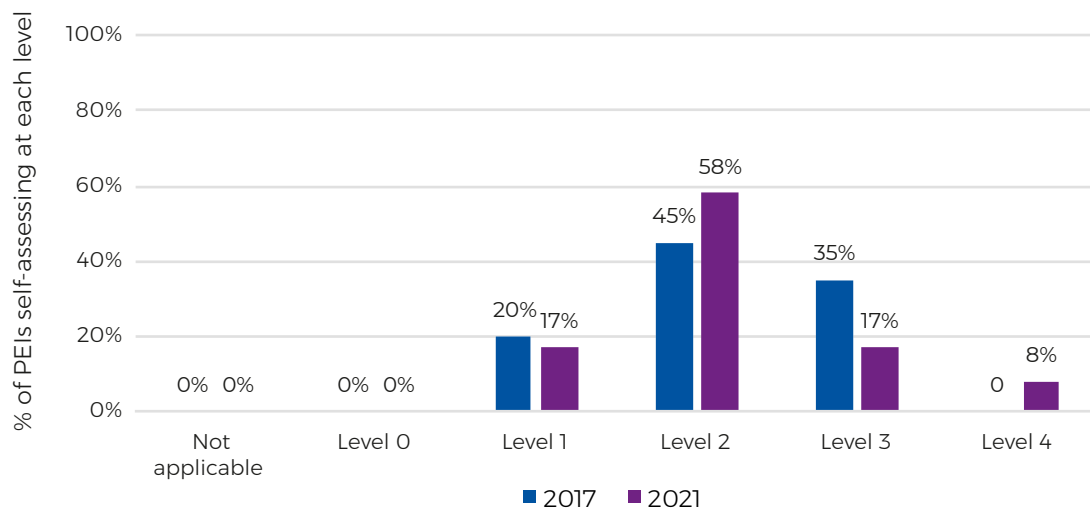


Figure 29: Section 1.02: Membership and professional registration, 2017 and 2021

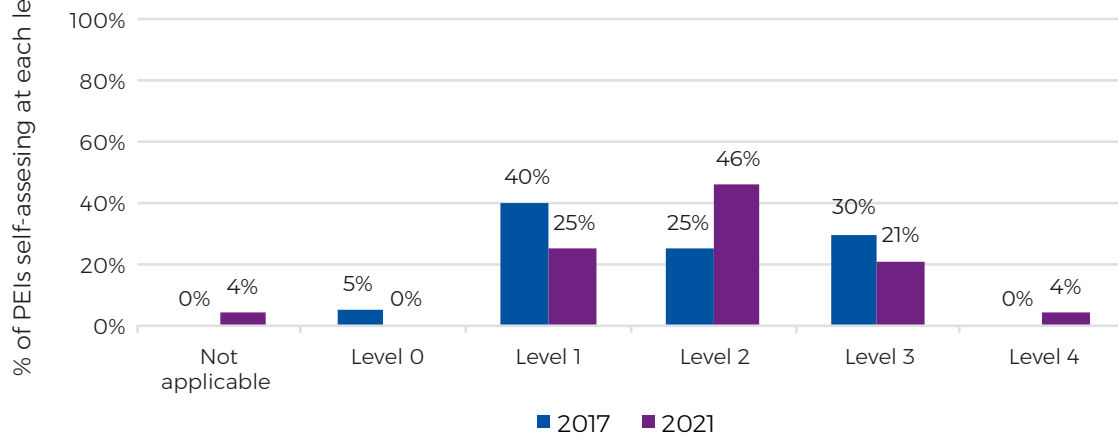


Figure 30: Section 1.03: Meetings, conferences and events, 2017 and 2021

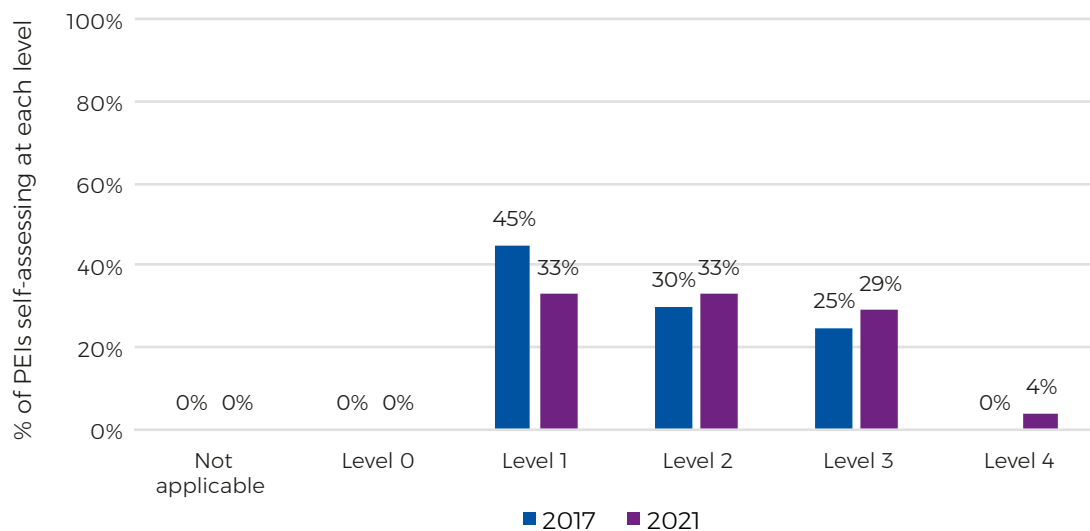


Figure 31: Section 1.06: Prizes, awards and grants, 2017 and 2021

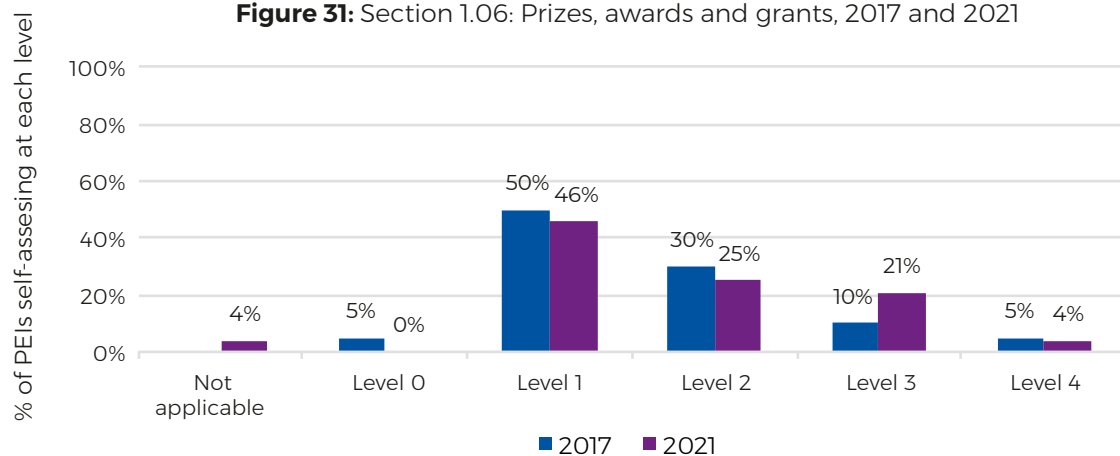


Figure 32: Section 1.09: Employment, 2017 and 2021

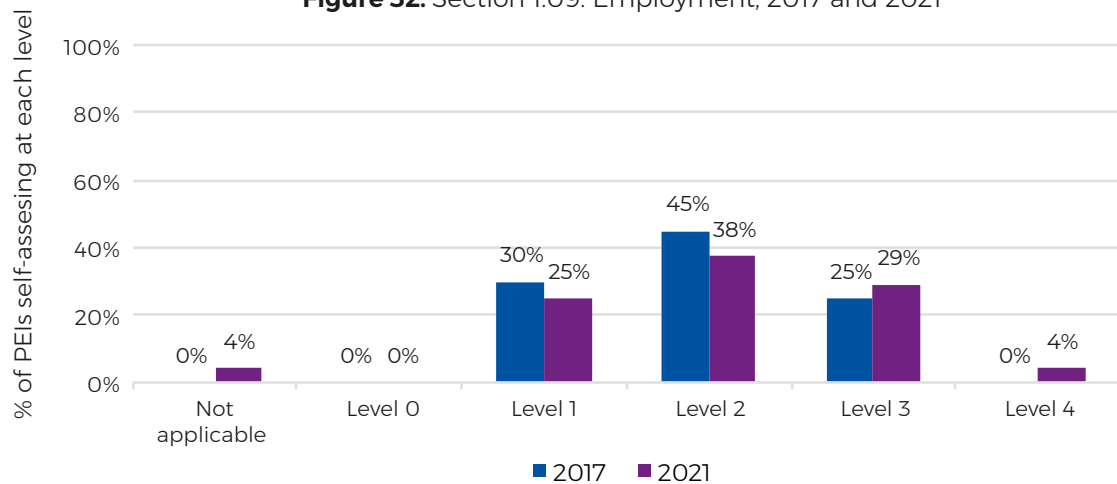
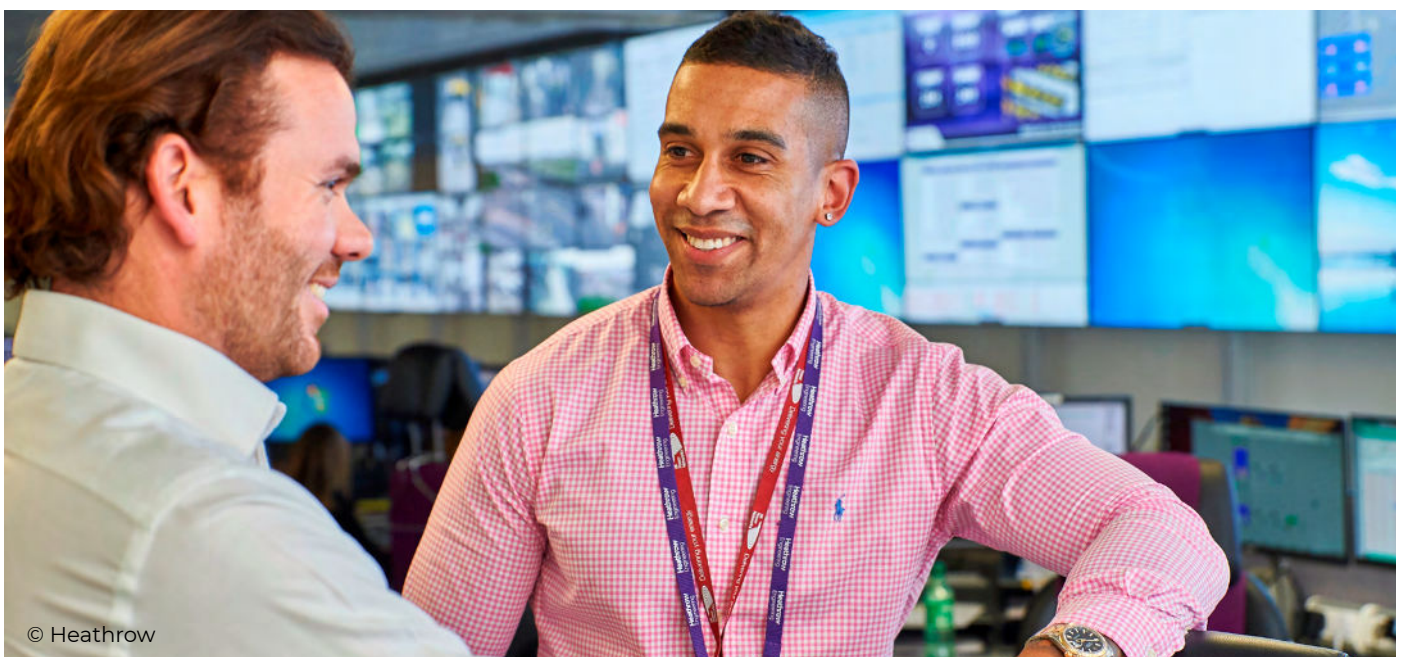
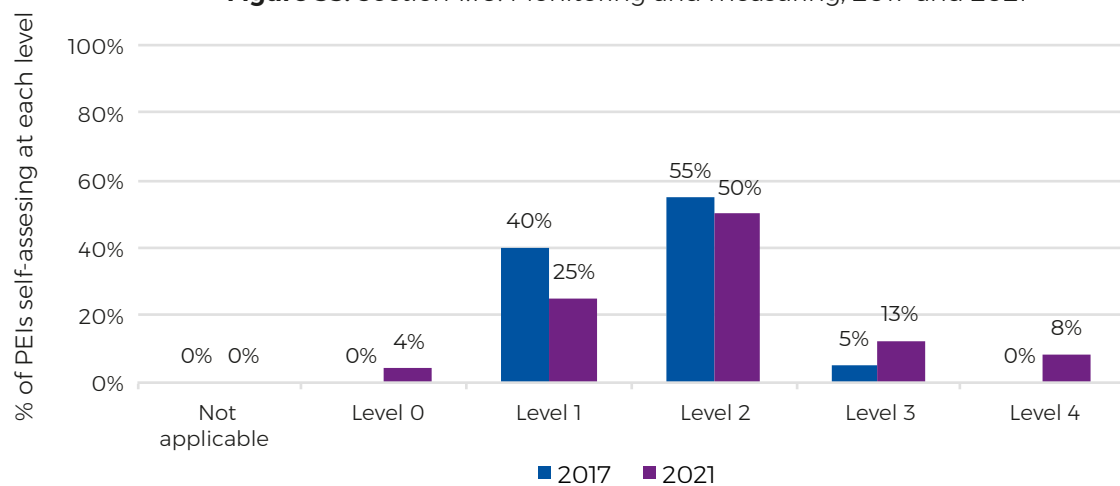


Figure 33: Section 1.10: Monitoring and measuring, 2017 and 2021



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Section 6

Strengths and areas for development

Each PEI participating in the Progression Framework benchmarking exercise receives an individual report summarising their strengths and areas for development. This section presents an overview of the strengths and areas for development shared with participating organisations, and also includes insights into what participants themselves are most proud of in their work on diversity and inclusion.

6.1 Strengths

The key messages back to PEIs about their strengths on diversity and inclusion can be summarised under six headings. These are:

1. Building firm foundations
2. Establishing good governance
3. Extending the scope of work beyond gender
4. Engaging members
5. Ensuring inclusive processes
6. Increasing integration

Strength 1 Building firm foundations

PEIs are working hard to establish and sustain robust foundations for the work on diversity and inclusion. The Progression Framework provides guidance on the steps required to build solid foundations for the work ahead; the following examples are taken from the submissions of participating organisations.

Examples:

- taking stock by participating in the 2021 Progression Framework benchmarking exercise
- developing an D&I policy/statement
- establishing an Inclusion, Equality and Diversity Working Group.

Strength 2 Establishing good governance

The submissions included plenty of examples of good practice relating to governance on diversity and inclusion, with examples of active senior level engagement and structures that translate the engagement into action.

Examples:

- D&I named as one of four strategy priorities for the organisation
- diversity and inclusion as a standing item on board agendas
- clear governance structure, with a well-established diversity and inclusion action group reporting directly into the Council and informing strategy and decision-making at senior levels
- clear allocation of responsibility for D&I at a senior level, for instance a named member of the Senior Management Team taking the lead role on D&I, and the appointment of a trustee with specific responsibility on D&I.

Strength 3 Extending the scope of work beyond gender

PEIs are beginning to expand the scope of their work on diversity, moving beyond gender to include other identities and priorities.

Examples:

- working across a broad range of diversity groups (age, gender, ethnicity, sexual orientation, socio-economic background, industry sector background)
- developing staff awareness and understanding on intersectionality and its implications in practice.

Strength 4 Engaging members

One of the recommendations from the 2017 Progression Framework benchmarking exercise was that PEIs should take a more inclusive approach on D&I, working in partnership with a wider group of stakeholders to establish priorities, plans and activities for the way forward. In 2021 there is evidence of partnership working particularly with members, to ensure the work on diversity and inclusion is informed by and responds to stakeholder needs.

Examples:

- partnering with members to establish networks for LGBTQ+ and minority ethnic members
- conducting a survey of members to gather their views and experiences on diversity and inclusion
- taking a targeted approach, identifying, and responding to the specific needs of specific membership demographics.

Strength 5 Ensuring inclusive processes

A number of PEIs are prioritising reviews of processes, procedures and documentation to ensure they are not just bias-free but also actively contribute to greater diversity and inclusion.

Examples:

- reviewing processes related to reasonable adjustments in assessment
- reviewing the language used in all membership documentation
- conducting a review of awards and prizes taking into account awards criteria, nominations processes, and decision-making at senior levels.

Strength 6 Increasing integration into day-to-day work

PEIs are putting effort into engaging colleagues in the work on diversity and inclusion, with the aim of maximising the potential for change by supporting the integration of D&I into the day-to-day work of individual colleagues, and the organisation as a whole.

Examples:

- ownership on diversity and inclusion intentionally distributed right across the organisation
- integrating diversity and inclusion into core operations such as marketing and communications, accreditation, outreach
- collaboration and co-creation with leaders, employees, and volunteers to maintain momentum and engagement.

6.2 What are PEIs proud of?

In Section 2 of the Framework, PEIs were asked to give examples of what they are most proud of on diversity and inclusion in their organisations. Examples were given across most sections of the Framework, with particular pride in actions on Governance and leadership:

Section 1.01 Governance and leadership

- “Our LGBTQ+ coffee morning was our first real ‘event’ for a D&I selected community and it was well received and went extremely well. We now have a steering committee of over 10 people who we are hoping will help share how we cater for any D&I network.”
- “We’re most proud that as a small organisation, we’ve been able to dedicate resource to engaging with D&I and have recognised its importance in the creation of our 2025 Strategy. We have also updated our Standards to acknowledge the importance of D&I for all professionally registered engineers and technicians.”
- “I am most proud of the recognition of the importance of improving EDI from top down and bottom up. We still have a long way to go but this year has been spent getting employee and executive buy in to the importance of this work.”
- “Many of our committees and volunteer roles have a good gender balance and among senior roles (Trustees and Chairs).”
- “We are proud of how ED&I has been embedded throughout the organisation, from our Trustees and Main boards, our President and Executive Team right throughout our colleagues and volunteers.”
- “Launching a D&I strategy based on a 5-year plan with review points, that includes a pledge on racism. Three independent reviews conducted (Governance, Finance, and Code of Conduct) which highlighted need for change and recommendations now implemented or solutions agreed. Progress on the Institution’s Culture and Behaviours is happening in parallel which will create a new set of values for members and staff.”
- “Achieving recognition at trustee level and senior management of the importance of this work helped by some very engaged Trustees. This led to a change of our strategic values and they now include ‘Inclusive’ which will hopefully shape our direction further.”
- “Annual action plans with strong engagement from teams that are signed off at leadership level, used to capture success, highlight areas for focus, and set out what actions teams will be taking to embed diversity and inclusion in their programmes, activities and practices for the next year.”

Section 1.02 Membership and professional registration

- “We have had incredible feedback from the inclusivity and diversity guidance document we produced. Overall EDI seems more readily spoken about across most areas of the institution.”
- “There is strong leadership on Membership issues with an active and engaged Fairness Inclusion and Respect Committee as the conscience of the Institution.”

Section 1.03 Meetings, conferences and events

- “Supporting, promoting, and creating a dialogue for minority groups in engineering, and visible engagement in national and global diversity awareness campaigns such as Pride and Black History Month.”
- “Holding a series of webinars on black voices in our industry, which created a lot of discussion around white privilege.”
- “More grass roots initiatives to support D&I emerging alongside those more centrally directed.”

Section 1.04 Communications and marketing

- “Our Publishing, Media & Marketing Department is making an excellent job of ensuring all marketing and promotional material reflects our policy on EDI and this also sets a good example.”
- “Our magazine is at the front of pushing boundaries and making sure we hear all community voices with: women take-overs, early career take-overs, out at work features, reaching out to have all BAME [Black, Asian and Minority Ethnic] feature stories (to name a few) and this is on a monthly basis. Outreach and engagement.”
- “We are proud of the progress we have made recently to show our support for various national and global diversity ‘Days’ and will, Social media has been a key platform for both staff and members for propelling our EDI agendas into a wider domain, and have visibly engaged with both national and global diversity awareness campaigns such as Pride and Black History Month.”
- “More visible engagement with other organisations, members and campaigns via our website, which has raised our profile both externally and internally among members.”

Section 1.05 Employment

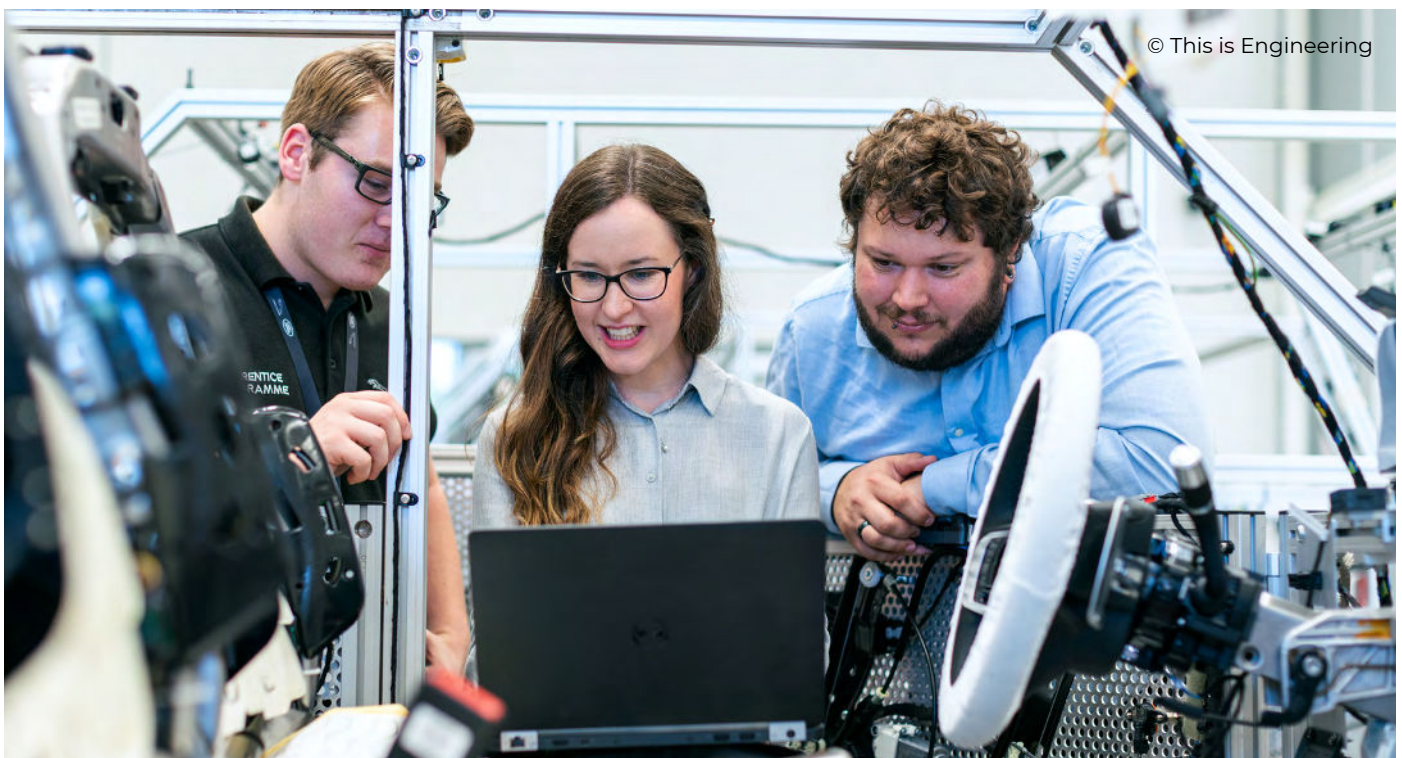
- “Our senior management body (Staff Executive) is a diverse group in itself and this sets a good example.”
- “We have built one of the most diverse staff teams and trustee boards of any professional engineering body.”

Section 1.06 Monitoring and measuring

- “We are proud of our new strategy and aspirational targets.”
- “We have implemented diversity data gathering across much of our activities including the membership, grants, events and staff. We have good response rates for staff (around 85 to 90%) and for our events (increasing from 64% to 80% in the last year).”

Action beyond gender

- “The focus on race issues, an area that had been previously underserved, and the increased involvement of members from a wider ethnic mix in the work of the D&I Committee.”



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6.3 Areas for development

Six areas for development were identified in the feedback to PEIs. Participating organisations are at different stages in their work on diversity and inclusion, so strengths in some PEIs are areas of development for others. The development areas are:

1. Securing and sustaining commitment
2. Strategies, plans and priorities
3. Formalising the approach
4. Ensuring further integration
5. Data gathering, monitoring and measuring
6. Extending the scope of work beyond gender

Area 1 Securing and sustaining commitment

Several PEIs described challenges they were facing in securing and sustaining commitment to the work on diversity and inclusion, from leadership, colleagues, and other stakeholders. Action is continuously underway to raise awareness, make the case for change, and secure resources, but levels of commitment and accountability, especially at senior levels, remain inconsistent.

Area 2 Strategies, plans and priorities

Several PEIs are juggling multiple different priorities on inclusion and diversity without an overarching vision, a strategy, or goals. Taking a more strategic, planned approach helps build ownership and alignment, and facilitates action planning and prioritisation.

Area 3 Formalising the approach

Linked to the previous section, several PEIs described an informal approach on D&I with much of the work being undertaken on an ad hoc basis. Taking a more formal approach to identifying and codifying inclusive processes, procedures, and practices will help with ensuring consistency, evaluating their impact, and identifying barriers to progress.

Area 4 Ensuring further integration

PEIs are making significant efforts to integrate diversity and inclusion into the day-to-day work of their organisations, but for many this remains a challenge and an area for development. PEIs know that for diversity and inclusion to progress it needs to be owned right across the organisation, but a number face disengagement – and sometimes active resistance – from leaders, colleagues, and other stakeholders.

Area 5 Data gathering, monitoring and measuring

Data gathering on diversity and inclusion remains a major challenge for PEIs. The feedback to 21 of 24 participating organisations included data gathering as an area for development, and the vast majority of those organisations also identified it as a development area in their own self-assessment. PEIs are most likely to gather data on gender and age, but data gathered on other protected characteristics is very limited. This was also identified as a key development area in the last benchmarking exercise; one participating organisation described the collection and use of data as remaining “our Achilles heel”. Without data it is a real challenge to prioritise, target, design, or assess the impact of any intervention on diversity and inclusion.

Area 6 Extending the scope of work beyond gender

Gender has been the main focus of DEI activity, and although many PEIs are taking action to extend the scope of their work beyond gender, for others this remains an ongoing challenge. For others who have extended the scope, the next area for development is to take an intersectional approach, looking at the ways in which gender and ethnicity (for instance) intersect to impact the experiences and careers of minority ethnic women in engineering.

Section 7

Next steps: priorities and challenges ahead

7.1 Priorities

PEIs were asked to identify their future priorities on diversity and inclusion. Five themes emerged as collective future priorities. These are:

1. D&I governance, strategy and planning
2. Data gathering
3. Developing training and guidance
4. Targeted activities for specific demographics
5. Building external presence

Priority 1 D&I governance, strategy and planning

Examples:

- “review the membership of the D&I committee and update Terms of Reference”
- “establish an ED&I advisory committee, chaired by a board Member, to harness member volunteer effort to provide increased focus on ED&I”
- “setting clear objectives”
- “make a formal strategy and action plan for governance”
- “D&I is one of the four main Themes of [our] new 2025 Strategy, to be introduced during 2021; this will put D&I clearly front and centre in terms of our priorities and articulate our ambitions in this area, with actions to be formulated during the Strategy period”.

Priority 2 Data gathering

The priority for many PEIs is establishing systems to gather data on diversity metrics, for members and other stakeholders, and to make best use of that data. A small number of PEIs are also making it a priority to gather qualitative data to better understand the experiences of members on diversity and inclusion.

Examples:

- “review and improve the current diversity data collection process”
- “updating membership/event EDI metric collection & starting analysis”
- “to establish arrangements to routinely collect information on some or all of the protected characteristics of the Institution’s employees and volunteer officers, so that the Institution can understand the characteristics of those leading the Institution in both executive and volunteer roles”
- “developing D&I KPIs and key metrics to coordinate, track and monitor progress, achieving consistency across the organisation in using diversity data to inform action”
- “improve the extent and ways in which we capture, analyse and use diversity data to address how we can support under-represented communities as well as further improve our culture and awareness of intersectionality”

- “introduce an EDI self-assessment form for all members and staff and to launch an EDI campaign to encourage members and staff to submit the form anonymously through the website”
- “introduction of a new anonymised feedback system for D&I issues”.

Priority 3 Developing training and guidance

Several PEIs included building capability on diversity and inclusion through developing training and guidance for stakeholders (Trustees, staff, members and other stakeholders) as one of their priorities for the next 12 to 24 months.

Examples:

- “making sure we can roll out D&I training to our employees, volunteers and business partners is something high on our priority list, followed by procedures on how to respond to anything not inclusive”
- “a full and extensive EDI training plan for the year”
- “launch a comprehensive and bespoke D&I training package for both employees and members”
- “continue to review and update the Race and culture terminology document and share it with colleagues and volunteers”.

Priority 4 Targeted activities for specific demographics

Several PEIs are prioritising starting or sustaining targeted activities for specific demographic groups, particularly in relation to membership. Action to initiate, support or evolve affinity networks for staff and/or members was identified as a particular priority.

Examples:

- “build on our Networks: making sure every member feels they have a network to join”
- “work with the LGBTQ+ Staff Network group to share good practice methods and to receive feedback from colleagues about their experience”
- “develop a D&I Champion Network for both employees and members”
- “continuing to deliver the actions from our Black Lives Matter Statement”.

Priority 5 Building external presence

A number of PEIs are prioritising activities to develop and enhance their external presence on diversity and inclusion, in particular their on-line and social media presence.

Examples:

- “taking a more bold and pro-active public facing stance on issues of obvious inequity, demonstrating greater visibility and transparency”
- “support and attend events that advocate women in STEM and promote awareness days on social media”
- “raise the profile of the Institution’s ED&I policy and actions via its new website”.

7.2 Challenges ahead

PEIs were asked to identify the main challenges ahead for their work on diversity and inclusion. Four themes stand out in the responses:

1. Data collection
2. Resourcing the work on diversity and inclusion
3. Securing and sustaining engagement
4. The wider context

Challenge 1 Data collection

Almost half of participating PEIs identified challenges relating to data collection. Specific challenges include:

- lack of membership diversity data, meaning an incomplete understanding of the diversity of the membership
- the need to develop more effective processes, systems and methods for data gathering
- outdated technologies
- lack of access to the technology needed to support and process data gathering
- challenges in making the case within the organisation for data to be gathered and held.

Challenge 2 Resourcing the work on diversity and inclusion

Over half of PEIs identified challenges relating to resourcing the work on diversity and inclusion, in particular staffing. The main challenges are:

- a lack of staff capacity to support the work on diversity and inclusion, including embedding diversity and inclusion into its day-to-day work
- a reliance on volunteers, and a desire not to overburden those who are doing this work on a voluntary basis.

Challenge 3 Securing and sustaining engagement

Several PEIs identified challenges relating to securing the engagement of key stakeholders in the work on diversity and inclusion, and in some cases the need to address resistance to prioritising work on diversity and inclusion. For example:

- “We still have a challenge of bringing everyone with us on this journey of growth and learning.”
- “[We do] occasionally get push-back on why we are seeking to advance D&I, especially by those who perceive that problems around, for instance, racism or homophobia, do not really affect the sector or [the PEI].”

Challenge 4 The wider context

Several PEIs also referenced the lack of diversity and inclusion in the wider context of engineering as a significant challenge in making process in their own organisations:

- “We ‘inherit’ an already very un-diverse profile shaped by inequalities in the entire education system.”
- “We are challenged with tackling the barriers of negative and damaging stereotypes in [our field], dealing with deep-rooted biases and challenging mindsets.”
- “The desire to develop role models and promote diversity can be limited by the availability of those role models.”

Section 8

Conclusions and recommendations

8.1 Conclusions

As in 2017, the Progression Framework 2.0 benchmarking exercise has highlighted a lot of similarities between PEIs, in terms of enablers and barriers to progress on diversity and inclusion. At the same time, PEIs are self-assessing at different levels. They are at different stages in their work on diversity and inclusion, and continue to have much to learn from and share with each other.

Leadership and governance

- There is clear evidence of the ongoing efforts PEIs are putting into ensuring good governance and strong leadership on diversity and inclusion at board level. Participants provided many examples of robust governance structures that are now in place and making a real difference, with much clearer accountability and responsibility for progress, and it is no surprise that this one of the areas in which PEIs expressed most pride in their submissions.

Membership engagement

- It is encouraging to see that the recommendation of the 2017 benchmarking exercise – that PEIs should do more to engage with and involve members to help drive diversity and inclusion and help establish future priorities, plans and activities – seems to have been taken to heart. In 2021 there is more evidence of partnership working particularly with members, to ensure the work on diversity and inclusion is informed by and responds to stakeholder needs.

Gathering and monitoring data

- Looking back at the benchmarking results from 2017, the monitoring data seems to provide some signs of progress. There is an increase in the representation of both women and people from minority ethnic backgrounds on the boards of PEIs. There is diversity in the PEI workforce, including at senior leadership level. And it is encouraging to see the data on the allocation of prizes, awards and grants to women, people from minority ethnic backgrounds, and younger populations, as recognition like this has the potential to significantly impact the careers of recipients.
- However, PEIs are still finding it a challenge to gather data on diversity, beyond gender and age. Only two PEIs, for instance, provided any data on ethnicity and registration. Although many PEIs do seem to be making efforts to extend the scope of their work beyond gender, the lack of data on ethnicity is a particular concern in light of global events on race and anti-racism in 2020. Some PEIs are beginning to incorporate an intersectional approach, but for most it is early days on intersectionality, and in general the profession runs the risk of dropping further behind others that have taken significant steps to address the challenges of collecting diversity data, for example, law and financial services.

From ad hoc to mainstream

PEIs are continuing to take action to integrate diversity and inclusion into the day-to-day work of their organisations, but in many cases are still lacking a vision, strategy, and action plans for their work, which makes prioritising and planning a challenge in already resource-constrained environments.

Self-assessments

There is very little overall movement in the self-assessment of PEIs on their work on diversity and inclusion since 2017. The differences between the two frameworks notwithstanding, it is clear that, as in 2017, most PEIs see themselves as operating at Level 2 of the Framework. In broad terms that is the level at which, as described in the Framework, “the case for change is clear, quantitative data is being gathered, responsibility and accountability are being formalised, guidelines are being developed, activity is being launched, connections are being made”. It is important that PEIs do not get discouraged by this – shifting systems, culture and behaviour is complex work – and, at the same time, that efforts are redoubled for greater progress over the coming years.

The recommendations below build on these concluding themes.

8.2 Recommendations

Recommendation 1: Identify and address barriers to data gathering

As in 2017, several PEIs have mechanisms in place to gather data on the age and gender of members. Far fewer monitor data on any other aspect of diversity. Monitoring data is key to assessing progress on diversity and inclusion. We recommend that all PEIs extend data collection and monitoring activity beyond gender and age to cover all aspects of diversity, and in particular ethnicity. The lack of robust data makes it a challenge to properly identify barriers, assess progress or target action to increase the participation of under-represented groups in engineering.

Some of the barriers which PEIs identified on data gathering are around making the case for data to be gathered, resourcing, and technology. There may be other challenges too, relating to the relational aspects of gathering data. It is recommended that PEIs take steps to share, explore and fully understand the barriers to data gathering, and prioritise action to expand monitoring activity to cover all aspects of diversity, ensuring that by the time of the next benchmarking exercise, all participating organisations are also able to provide (as a minimum) robust data on ethnicity on the board, in leadership, in membership and in registration (where relevant).

Recommendation 2: Broaden the focus of activity to other under-represented groups

It is encouraging to see that PEIs are continuing to broaden the scope of their work on diversity and inclusion beyond gender, and that seven PEIs describe themselves as beginning to take an intersectional approach. However, this does not yet go far enough. We would encourage all organisations to broaden the focus of their activity to include other under-represented groups, and in addition to take an intersectional approach to understanding how (for instance) gender and ethnicity intersect to impact the lives of minority ethnic women in science and engineering.

Recommendation 3: Resource and recognise the work

Feedback from the submissions suggests that the work on diversity and inclusion is often under-resourced. To make progress, this work needs to be adequately resourced. We recommend that all organisations review how the work on diversity and inclusion is currently being resourced and make changes as necessary. As a first step PEIs and scientific bodies should share how they are resourcing diversity and inclusion in their organisations including the reward and recognition strategies for member volunteers.

Recommendation 4: Use the Framework to plan for progress

As noted in the conclusions above, there is little overall movement in the self-assessment of participating organisations on their work on diversity and inclusion since 2017. Our recommendation is for every organisation to use the Framework to plan for future progress. We also recommend that all organisations consider setting a time-bound goal to demonstrate visible progress across all sections of the Framework that are relevant to them.

Recommendation 5: Establish a community of practice

The ongoing exchange of ideas and practices is strongly encouraged across all PEIs. Our recommendation is that the Royal Academy of Engineering, in collaboration with the Science Council, supplements existing best practice exchanges by establishing an ongoing cross-profession 'community of practice', meeting on a regular basis (two or three times a year), with the agenda set by participating organisations, to facilitate peer-to-peer exchange and action learning on priorities, challenges and solutions on diversity and inclusion across the professions.



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Appendix 1

Progression Framework overview

The Progression Framework was developed in a collaboration between the Royal Academy of Engineering and the Science Council with the aim of helping professional bodies track and plan progress on diversity and inclusion. The Progression Framework sets out four levels of good practice on diversity and inclusion in 10 areas of activity of PEIs and scientific bodies and provides a framework for data collection on diversity and inclusion.

The 10 areas of activity are:

1. Governance and leadership
2. Membership and professional registration
3. Meetings, conferences and events
4. Education, training and examinations
5. Accreditation of education and training
6. Prizes, awards and grants
7. Communications and marketing
8. Outreach and engagement
9. Employment
10. Monitoring and measuring

The four levels of good practice are:

- **Level 1:** Initiating
- **Level 2:** Developing
- **Level 3:** Engaging
- **Level 4:** Transforming

The Progression Framework was first developed in a collaboration between the Royal Academy of Engineering and the Science Council in late 2016. In 2020 the contents of the original Progression Framework were reviewed by a Steering Group of members of both organisations. The aims of the review were:

- To ensure that the Progression Framework continued to reflect good practice on diversity and inclusion four years on from its original publication.
- To take into account feedback and learning from the 2017 benchmarking exercise, whilst maintaining the continuity necessary to ensure 2017 participants are able to compare their progression on diversity and inclusion over time.

A small number of changes were made to the Framework, as follows:

Section 1:

The 2017 Progression Framework comprised eight sections plus a single data section. Progression Framework 2.0 comprises 10 sections, plus one externally linked section, plus five data sections:

- The 2017 Progression Framework asked participating organisations about progress on diversity and inclusion in a combined section on *Education and training, accreditation and examinations*. Progression Framework 2.0 asks participating organisations separately about *Education, training and examinations*, and *Accreditation of education and training*.
- The 2017 Progression Framework asked participating organisations about progress on diversity and inclusion in a combined section on *Communication, marketing, outreach and engagement*. Progression Framework 2.0 asks participating organisations separately about *Communications and marketing*, and *Outreach and engagement*.
- Progression Framework 2.0 included an external link to The Royal Society of Chemistry's own Framework for Action on Publishing, for professional bodies with a role in scientific publishing. Completion of this section was not required by the submission.

Other changes made to the content of the Progression Framework include:

- The rewording of Level 4 from *Evolving* to *Transforming*, reflecting that the highest level of progress on diversity and inclusion requires transforming the systems and culture of an organization.
- Within each section of the Progression Framework the level indicators are grouped more clearly into three consistent themes:
 - Leadership, Strategy, Planning and Accountability
 - Policies and Procedures
 - Insights and Evaluation
- Updating of the wording in the Progression Framework, to use more active language and include clearer reference to different demographic groups.

Section 2:

Updated to include questions about activity in relation to different protected characteristics and introduce a question about intersectionality.

Section 3:

Reformatted into five sub-sections for Progression Framework 2.0 and including more detailed data requests.

Appendix 2

Benchmarking methodology

In completing the Framework for the 2017 Progression Framework benchmarking exercise, participating organisations were asked to self-assess their progress in each of the 10 categories above, by allocating a score on a simple Excel spreadsheet as follows: score 1 where progress is self-assessed to be at Level 1, score 2 where progress is self-assessed to be at Level 2 etc. Participating organisations were also asked to provide quantitative data measuring and monitoring progress on diversity and inclusion.

Completed Progression Frameworks were returned to [for business sake consulting limited](#), an independent consultant on diversity, inclusion and organisational change. The consultants were commissioned by the Royal Academy of Engineering and the Science Council to develop the original Progression Framework in 2017. They also advised on the development of Progression Framework 2.0.

Once received, the submissions for all participating organisations were combined by the consultants, including both self-assessment and text evidence. Only the participating organisation and the consultants can see their own submission and only the consultants have access to the combined information.

The consultants calculated numerical benchmarks and to compare self-assessment levels and qualitative evidence from participating organisations, overall and by profession (PEI and scientific body).

Each participating organisation received feedback on four benchmarks:

- BENCHMARK 1: How the self-assessment in Section 1 of the Progression Framework benchmarked against the self-assessment of all other participating organisations, PEIs and scientific bodies combined)
- BENCHMARK 2: How the self-assessment in Section 1 of the Progression Framework benchmarked against the self-assessment of all other participating organisations in their profession (PEIs or scientific bodies, and including those that are both PEIs and scientific bodies)
- BENCHMARK 3: How the data provided in Section 3 of the Progression Framework on gender and ethnicity on the board and in senior leadership of the organisation benchmarked against the data provided by other participating organisations
- BENCHMARK 4: How the data provided in Section 3 of the Progression Framework on gender and ethnicity in membership and registration benchmarked against the data provided by other participating organisations

Benchmarks 1 and 2 were simply calculated using a median rather than a mean average. The median calculation generates a benchmark at Levels 1-4, compared to a mean calculation which generates a benchmark at one or two decimal points.

Benchmarks 3 and 4 were calculated using a mean average of organisations providing data on gender and ethnicity on the board, in leadership, in membership, and registration. On registration, a small number of organisations provided information on more than one register. In such cases data from the first register provided was used in calculating these averages. Data on ethnicity and registration was very limited and the benchmark produced must be treated with caution.

Appendix 3

Completing the Framework: commentary

This section includes commentary on the completion of the Framework, from the perspective of [for business sake consulting](#). The Royal Academy of Engineering and the Science Council commissioned [for business sake consulting](#) to conduct and analyse the 2021 benchmarking exercise.

Commentary

- The time and effort that participating organisations put into completing the Framework is recognised and applauded.
- The Progression Framework is a self-assessed benchmark. In completing the benchmark, participants were asked to also provide an accompanying narrative for each self-assessment score, summarising the evidence the score was based on. All 24 participating PEIs provided some written evidence in completing Section 1 of the Framework, submitting content that ranged from minimal to very detailed.
- A small number of submissions made reference to external sources such as websites, which were not reviewed in detail. Neither over- nor under-inflation of self-assessment scores were considered to be a major concern in reviewing the submissions. In general, the self-assessments seemed closely aligned to the content of the Framework.
- 23 of 24 participating PEIs provided some data in Section 2 of the Framework.
- Completion rates were less consistent for Section 3, and in some cases less data was provided in 2021 than in 2017, as has already been observed. As in 2017, where PEIs provided data with their submissions, there were a few instances where its reliability and accuracy could be questioned. Some of the data on ethnicity was clearly observational and some data entries were unclear. The datasheets were significantly more complex in Progression Framework 2.0 than in the 2017 Framework and this may have contributed to lower and less accurate completion rates. This will be reviewed for next time. Meanwhile the data that was provided is a great starting point but encouraging greater accuracy of completion is an ongoing priority for any future benchmarking exercise.



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