



**Diversity and inclusion
Progression
Framework 2.0**



**Royal Academy
of Engineering**

**Diversity and Inclusion Progression Framework
2021 Benchmarking report:
Scientific bodies**

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Report authors

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FOREWORD

We are delighted to present the report of the 2021 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 professions 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 scientific bodies.

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

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

The ten 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 Science Council [website](#).

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 (PEIs). Six participating organisations are both scientific bodies and professional engineering institutions.¹

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 scientific bodies, including those that are also PEIs. The report includes:

- Headlines from the diversity monitoring data submitted by scientific bodies.
- The Progression Framework self-assessment results for scientific bodies.
- A summary of scientific bodies 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. They are:

- 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 scientific bodies provided data on gender than on any other aspect of diversity. Data on age was also often provided.

¹ The terms 'PEI' and 'scientific body' also cover engineering and science organisations such as the Science Council, Royal Academy of Engineering, the Engineering Council and Engineering UK.

- Many fewer scientific bodies provided data on ethnicity than on gender and age, and fewer scientific bodies submitted data on ethnicity in 2021 than in comparable sections for 2017.
- Limited data was submitted across other diversity characteristics.

3.1 Diversity on boards

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

- In 2021, 14 scientific bodies provided data on the representation of women on their boards.
- On average, scientific bodies have 46% women on their boards. This is an increase on 2017, where on average scientific bodies had 43% women on their boards.
- Fewer scientific bodies provided data on ethnicity on the board than on gender. Eight scientific bodies provided data on the representation of people from minority ethnic backgrounds on their boards, compared with 14 in 2017.
- On average, scientific bodies have 14% people from minority ethnic backgrounds on the Board. This is also an increase on 2017, where on average scientific bodies had 9% people from minority ethnic backgrounds on their boards.

3.2 Diversity in scientific body workforce and leadership

- Scientific bodies participating in the benchmarking exercise employ nearly 1300 people.
- 21 scientific bodies provided data on the number of employees. On average scientific bodies employ 62 people but this average figure conceals a huge range in size of organisation.
- Women comprise on average 71% of the scientific bodies workforce and of those that provided data, all have more than 50% of women on their staff.
- 10 scientific bodies provided data on the representation of people from minority ethnic backgrounds in the scientific bodies workforce. Of those that did provide data, seven scientific bodies reported that over 10% of staff are people from minority ethnic backgrounds with the highest representation being 50% (compared to 35% in 2017).
- 14 scientific bodies provided data on women in the senior leadership of their organisations (CEO, senior management team etc). Women comprise on average 58% of those in senior leadership positions in scientific bodies.
- Four scientific bodies provided data on people from minority ethnic backgrounds in senior leadership positions. Of those that provided data, people from minority ethnic backgrounds comprise on average 22% of those in senior leadership positions in scientific bodies.

3.3 Diversity in scientific body membership and registration

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

- 15 scientific bodies provided data on women in membership. On average women comprise 40% of scientific body membership. This is an increase from 2017, when women represented 34% of members.
- 13 scientific bodies provided data on women registrants. Women represent 37% of registrants. The 2017 benchmark did not distinguish between members and registrants.
- Five scientific bodies provided data on people from minority ethnic backgrounds in membership, compared to seven in 2017. People from minority ethnic backgrounds comprise 24% of people in scientific bodies membership in 2021, compared to 19% in 2017.
- Only four scientific bodies provided data on registrants from people from minority ethnic backgrounds; on average people from minority ethnic backgrounds represent 19% of registrants. However, given the small number of data points on people from minority ethnic backgrounds in membership and registration both these averages must be treated with caution.

3.4 Diversity in examinations, prizes, awards and grants

- Eight scientific bodies provided usable data on gender and examination pass rates. The average pass rate for women was 57% and for men, 58%.
- One scientific body provided data on ethnicity and examination pass rates.
- 11 scientific bodies provided data on allocation of prizes, awards and grants by gender. Women received 41% of prizes, awards and grants.
- Four scientific bodies provided data on the allocation of prizes, awards and grants by ethnicity. Of those that provided data, people from minority ethnic backgrounds received 16% of prizes, awards and grants.

4 Self-assessment overview

The table below presents the median self-assessment scores for scientific bodies 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:

- Scientific bodies assess themselves to be Level 2: Developing, in nine of the ten areas of Progression Framework 2.0, and at Level 1: Initiating, in one of the ten areas.
- Scientific bodies self-assessed their performance to be strongest in Meetings, conferences and events (section 1.03), Communications and marketing (Section 1.07) and Employment (Section 1.09), with eight organisations assessing themselves at

levels 3 and 4. Seven assessed themselves to be at levels 3 and 4 in Membership and professional registration (Section 1.02).

- More scientific bodies assessed their performance to be at level 1 in Prizes, awards and grants (Section 1.06) than any other section, with 10 organisations assessing themselves to be at level 1.

	1.01 Governance and leadership	1.02 Membership and professional	1.03 Meetings, conferences and	1.04 Education, training and	1.05 Accreditation of education and	1.06 Prizes, awards and grants	1.07 Communications	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 scientific bodies	2	2	2	2	1	2	2	2	2	2

Overall there has been little change in the self-assessment of scientific bodies 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, scientific bodies themselves identified priorities for action and challenges ahead. The headlines for the strengths, areas for development, priorities and challenges facing scientific bodies 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 Science Council and Royal Academy of Engineering:

5.1 Strengths

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

- 1. 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.
- 2. Building firm foundations**
Putting systems, policies and practices in place to support progress on diversity and inclusion.
- 3. Establishing good governance**
Ensuring systems of governance are in place to support progress on diversity and inclusion, underpinned by active senior level engagement.
- 4. Increased integration into communications**
Integrating diversity and inclusion into the communications strategies of scientific bodies.
- 5. Collective ownership**
Engaging colleagues by supporting the integration of diversity and inclusion into the day-to-day work of individuals and the organisation as a whole.
- 6. Inclusive working culture**
Recognising the importance of a diverse and inclusive work culture to support action on diversity and inclusion for members.

5.2 Areas for development

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

- 1. Data gathering, monitoring and measuring**
Data gathering on diversity and inclusion remains a major challenge for scientific bodies. The feedback to 21 of 22 scientific bodies identified data gathering, monitoring and measuring as an ongoing area for development.
- 2. Ensuring further integration into core functions and activities**
Continuing the integration of diversity and inclusion into the day-to-day work of colleagues and the organisation.
- 3. Securing and sustaining commitment**
Securing and sustaining stakeholder commitment, including leadership commitment.
- 4. 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.
- 5. Formalising the approach**
Continuing the move from an ad hoc to a more formal approach on diversity and inclusion.
- 6. Extending the scope of work to other under-represented groups**
Expanding the scope of scientific bodies work beyond gender to other under-represented groups.

5.3 Priorities for action

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

- 1. D&I governance, strategy and planning**
Continuing the work to strengthen governance, strategy and planning on diversity and inclusion.
- 2. Data gathering**
Establishing systems to gather diversity data and making effective use of the data that is gathered.
- 3. Developing training and guidance**
Building the capabilities of stakeholders (Trustees, staff, members and other stakeholders) through training and guidance on diversity and inclusion.

4. **Targeted activities for specific demographics**
Targeted activities for specific demographic groups, particularly in relation to membership.
5. **Building external presence**
Developing and enhancing external presence on diversity and inclusion, particularly on-line and social media presence.

5.4 Challenges

Scientific bodies identified four main challenges ahead:

1. **Data collection**
Establishing systems to gather diversity data and making effective use of the data that is gathered.
2. **Resourcing the work on diversity and inclusion**
Over half of scientific bodies identified challenges relating to resourcing the work on diversity and inclusion, particularly staffing.
3. **Securing and sustaining engagement**
Securing and sustaining stakeholder engagement on diversity and inclusion.
4. **The wider context**
The lack of diversity in the wider context of the scientific profession remains a significant challenge.

5.5 Recommendations

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

Recommendation 1: Identify and address barriers to data gathering

Monitoring data is key to assessing progress on diversity and inclusion. We recommend that scientific bodies 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 science.

Some of the barriers which scientific bodies 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 scientific bodies 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 scientific bodies are continuing to broaden the scope of their work on diversity and inclusion beyond gender. 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 lived experiences of (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, 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 scientific bodies. Our recommendation is that the Science Council, in collaboration with the Royal Academy of Engineering, 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 scientific bodies.

The Progression Framework was first developed in collaboration between the Science Council and the Royal Academy of Engineering in 2017. 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 three 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 the Progression Framework are provided in Appendix 1.

This report presents the key findings from the benchmarking exercise for all participating scientific bodies, including those that are also PEIs. Participants in the 2021 benchmarking exercise have already received a confidential report containing specific feedback on the performance of their own organisation. The report includes profession-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.

SECTION 2 DIVERSITY ON SCIENTIFIC BODY BOARDS AND IN LEADERSHIP

2.1 Overview of participants by profession

40 separate organisations took part in the 2021 Progression Framework benchmarking exercise. 22 submissions were received from scientific bodies and 24 from PEIs. Six participating organisations were both scientific bodies and PEIs.

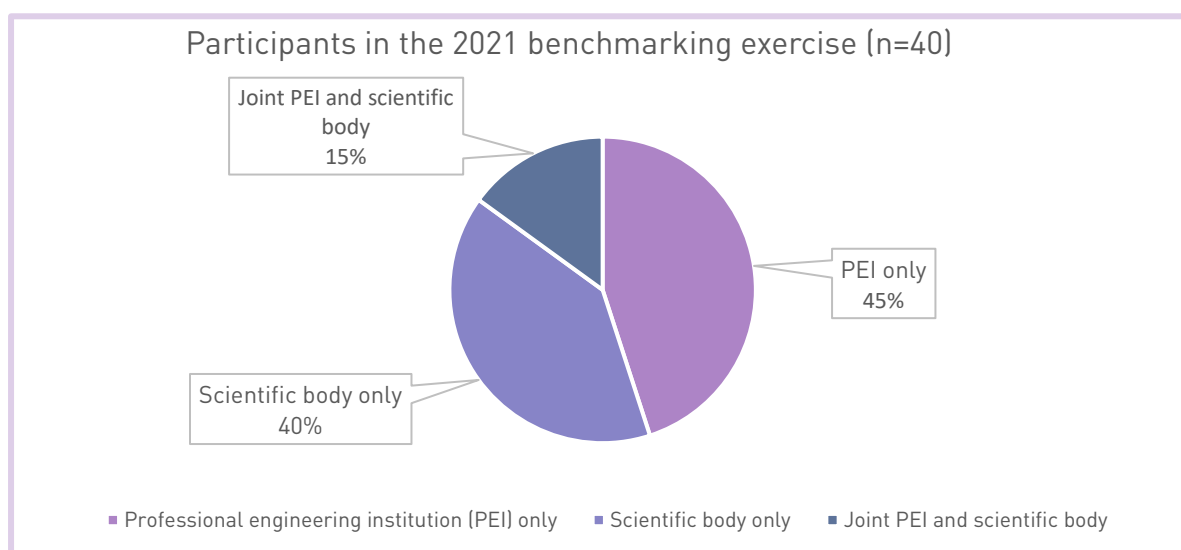


Figure 1

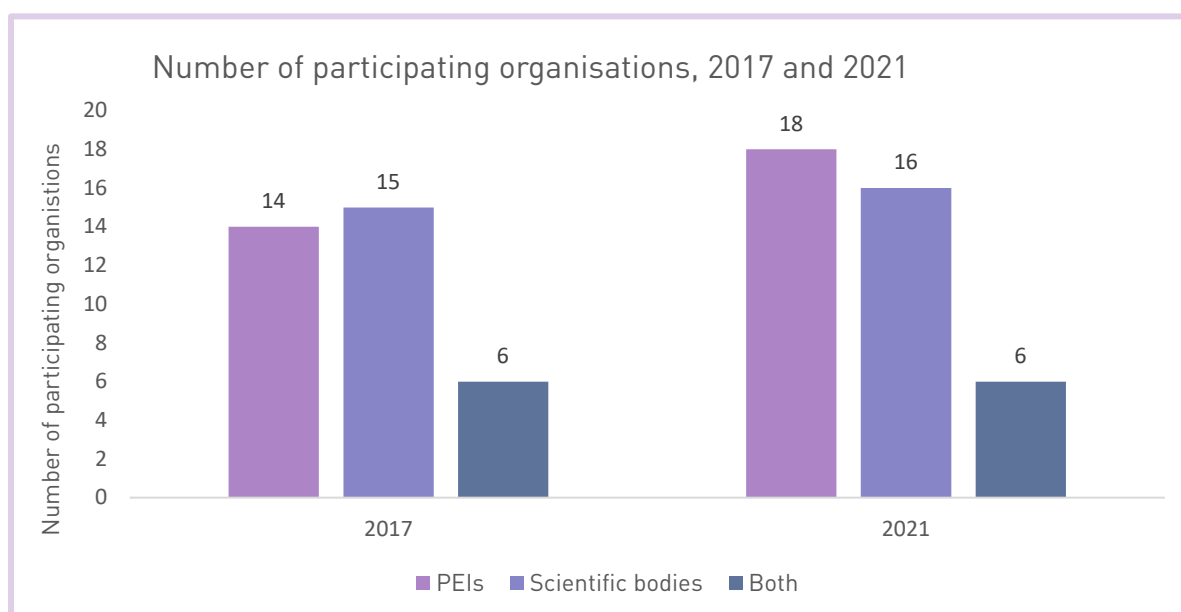


Figure 2

2.2 Diversity on scientific body boards

Women on scientific bodies boards

14 scientific bodies provided data on the representation of women on their boards. On average, scientific bodies have 46% women on their boards (compared to an average of 43% in 2017). In 2021, just over half of scientific bodies who provided data have more than 30% women on their boards. Women also represent 43% of those on all scientific boards and committees.

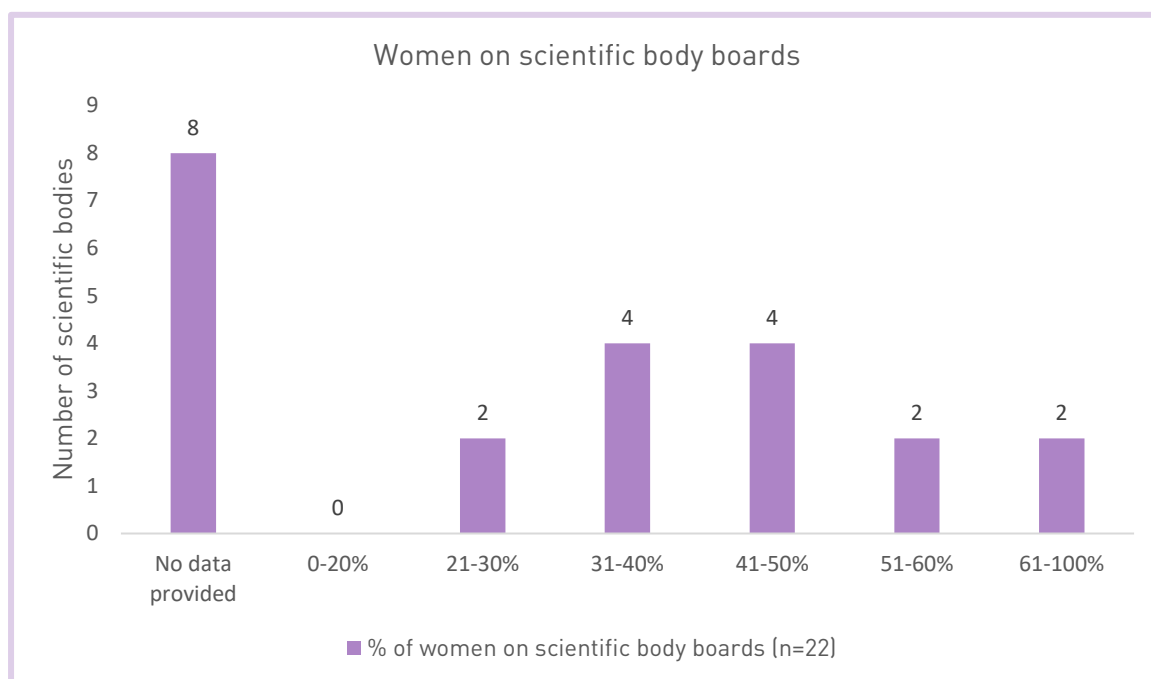


Figure 3

Ethnicity on scientific body boards

As in 2017, fewer scientific bodies provided data on ethnicity on the board than on gender. Eight scientific bodies were able to provide data on the representation of people from minority ethnic backgrounds on their boards compared to 14 in 2017. 14 provided no data in 2021. Of those who provided data, on average, scientific bodies have 14% people from minority ethnic backgrounds on the board (compared with an average of 9% in 2017) and people from minority ethnic backgrounds represent 16% of those on all scientific boards and committees.

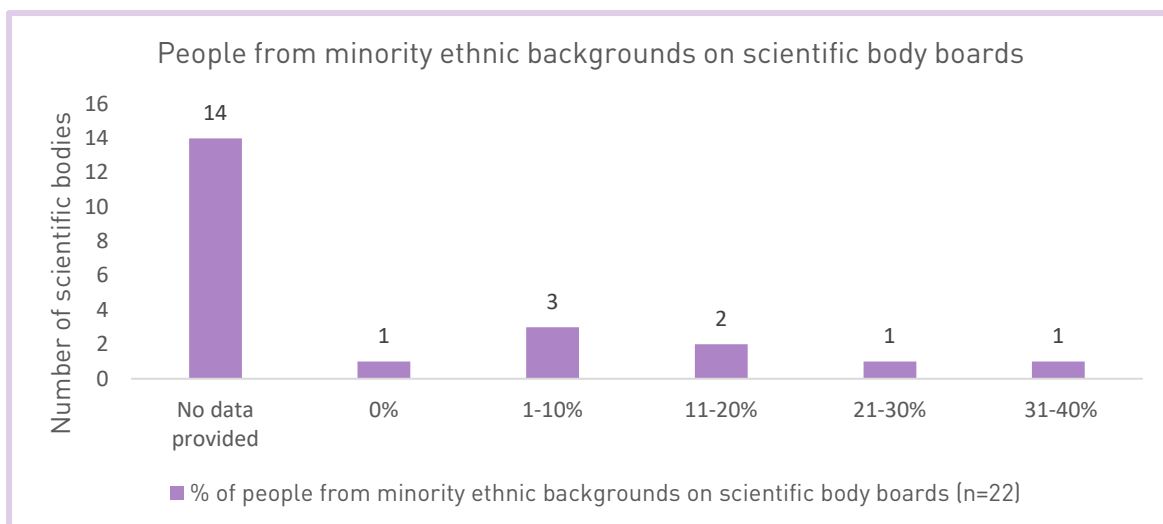


Figure 4

Other board diversity metrics

- Nine scientific bodies provided data on the age profile of their boards. 59% of scientific bodies board members are aged 51 and above, with just over 16% aged below 40 years.
- Only four scientific bodies provided any data on people with disabilities on the board; all four responded that there are no people with disabilities on the board. Nine scientific bodies provided data on people with disabilities on all boards and committees; of those that provided data, on average people with disabilities comprise 5% of all scientific bodies boards and committees.
- Only three provided data on religion or sexual orientation.

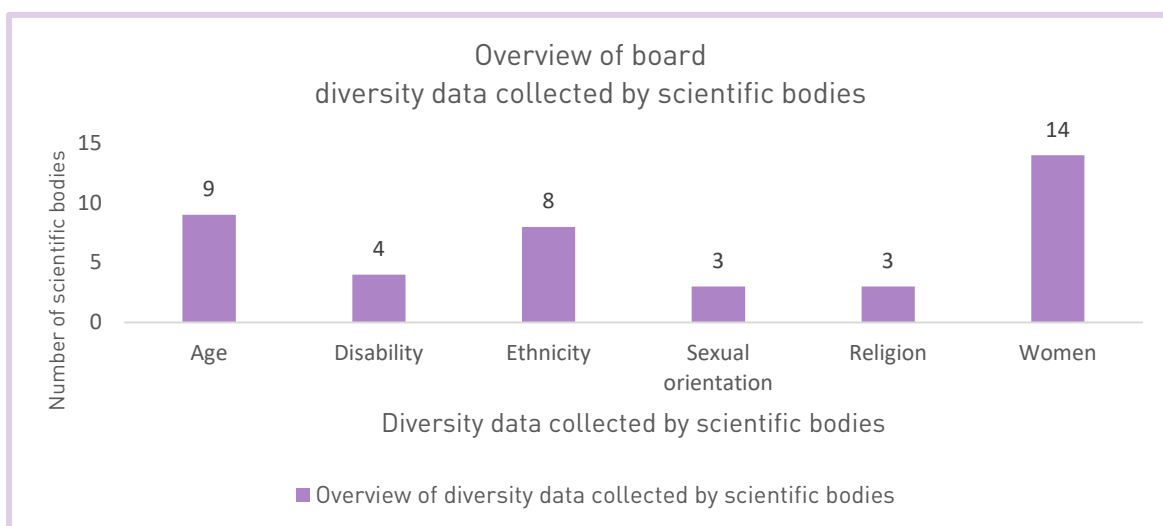


Figure 5

2.3 Diversity in the scientific body workforce

Workforce overview

- Scientific bodies participating in the benchmarking exercise employ nearly 1300 people.
- 21 scientific bodies provided data on the number of employees. On average scientific bodies employ 62 people but this average figure conceals a huge range in size of organisation. Five scientific bodies employ fewer than 10 people and two employ more than 100 people.

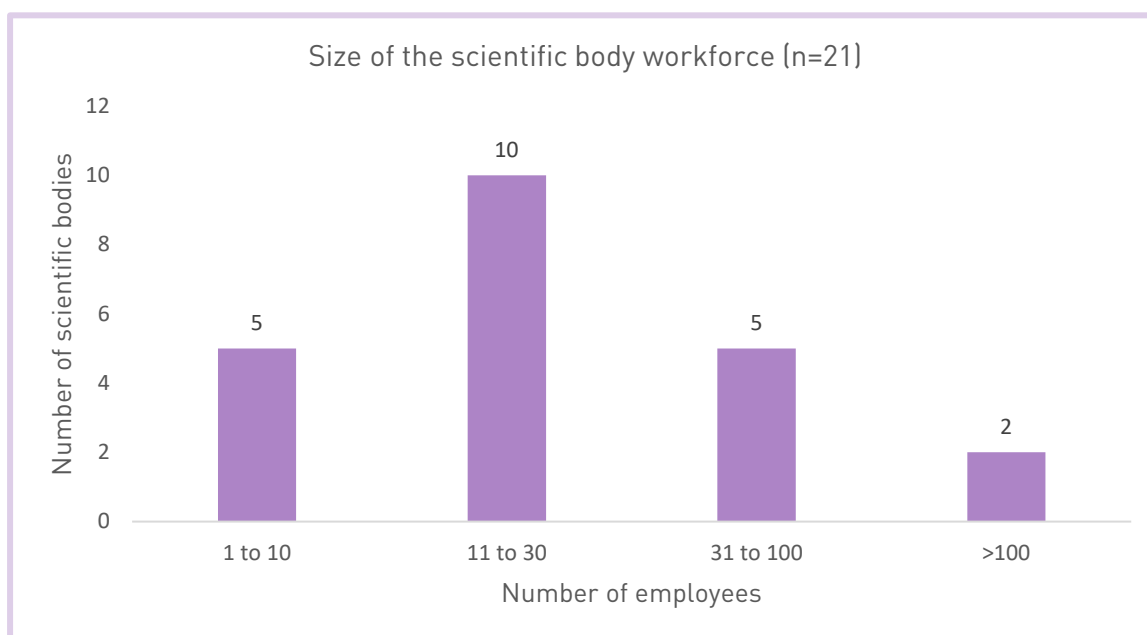


Figure 6

- 19 scientific bodies provided data on the representation of women in the workforce. Women comprise on average 71% of the scientific body workforce. All have more than 50% of women on their staff with the highest representation reported being 100%.
- 10 scientific bodies provided data on the representation of people from minority ethnic backgrounds in the scientific body workforce. Of those that did provide data, seven scientific bodies reported that over 10% of staff are people from minority ethnic backgrounds, with the highest representation being 50% (compared to 35% in 2017). Of those that provided data, people from minority ethnic backgrounds comprise on average 23% of the scientific body workforce.
- Six scientific bodies provide data on the representation of people with disabilities in the workforce. Of those that provided data, on average 2% of the scientific body workforce have a disability.
- Six scientific bodies provided data on the representation of LGBTQ+ people in the workforce. Of those that provided data, on average 7% of the scientific body workforce is LGBTQ+.

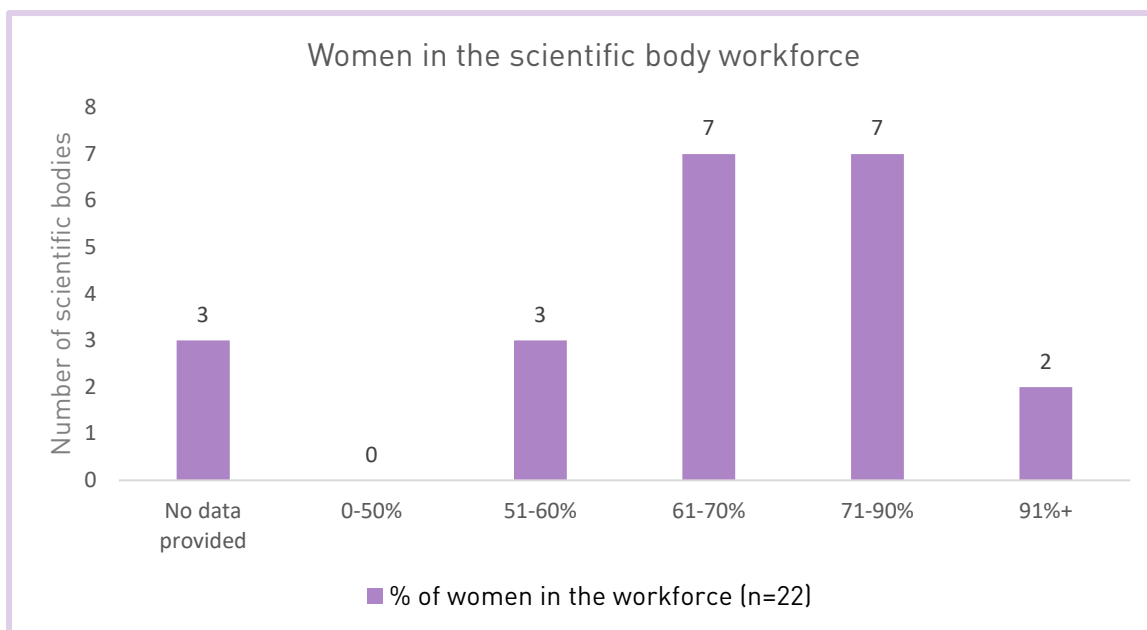


Figure 7

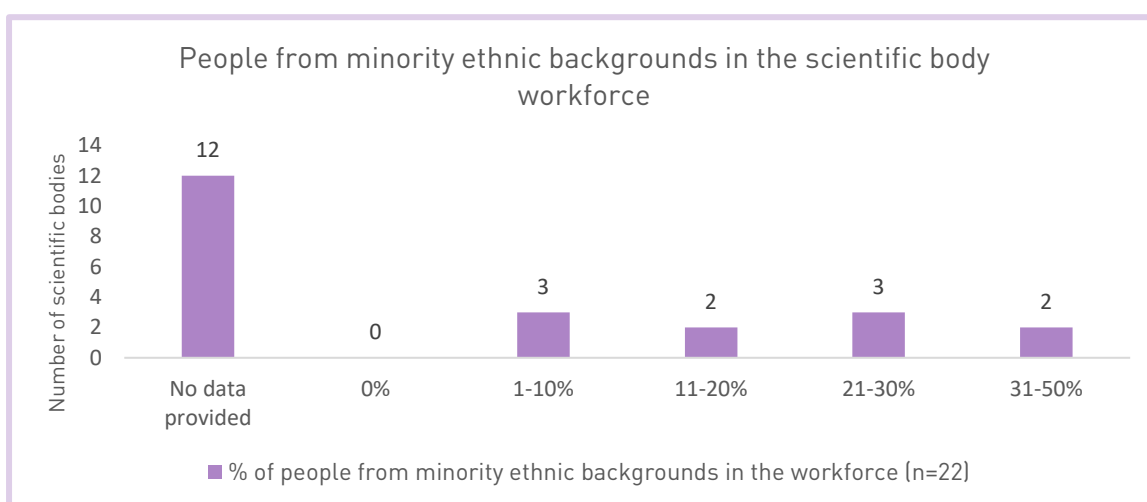


Figure 8

Diversity in senior leadership

- 14 scientific bodies provided data on women in scientific body leadership. Women comprise on average 58% of those in senior leadership positions in scientific bodies.
- Six scientific bodies have a senior leadership team that is more than 50% women, the same as in 2017.

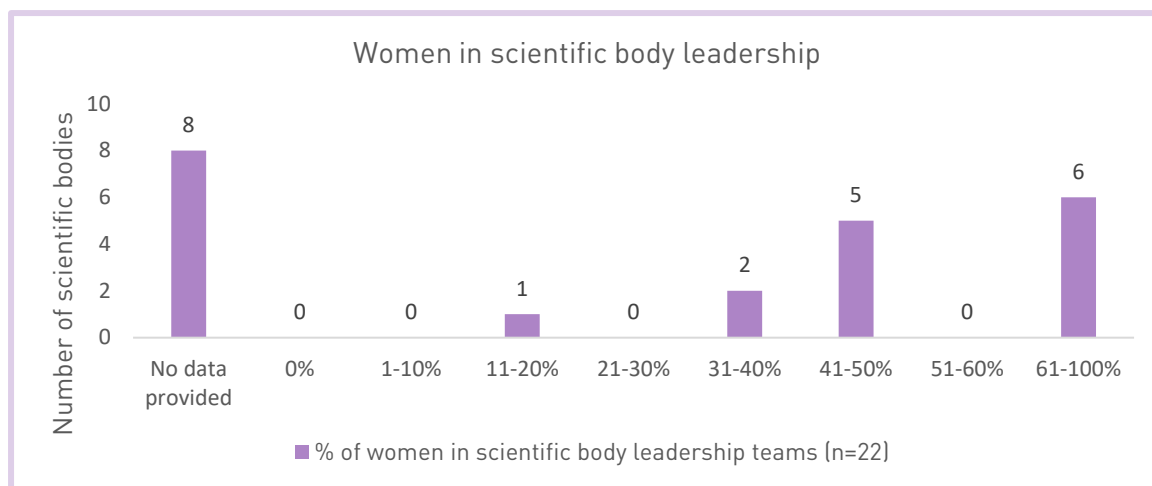


Figure 9

- Only four scientific bodies provided data on the representation of people from minority ethnic backgrounds in senior leadership compared to 16 in 2017. Of those that provided data, people from minority ethnic backgrounds comprise on average 22% of those in senior leadership positions in scientific bodies.
- Six scientific bodies provided data on the representation of people with disabilities in senior leadership, of which only two reported having any people with disabilities in senior leadership.
- Five scientific bodies provided data on the representation of LGBTQ+ people in senior leadership, of which none reported having any LGBTQ+ people in senior leadership.
- Five scientific bodies provided data on religious diversity in senior leadership.

SECTION 3 DIVERSITY IN SCIENTIFIC BODY MEMBERSHIP AND REGISTRATION

3.1 Diversity and membership

Gender diversity in scientific body membership

15 scientific bodies provided data on gender in membership (fewer than in 2017 when all but one provided data). On average women represent 40% of scientific body members compared to 34% in 2017. No scientific bodies providing membership data have less than 10% women in membership and 4 have over 50%.

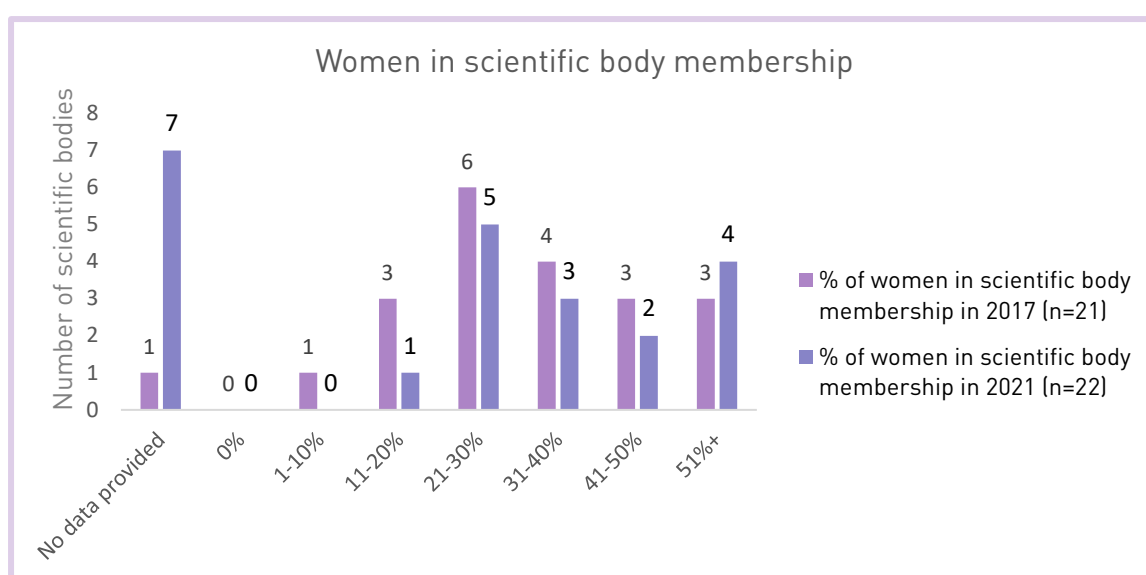


Figure 10

Ethnic diversity in scientific body membership

Scientific bodies are less likely to provide data on ethnicity in membership than on gender. Only 5 scientific bodies provided usable data on the percentage of members from minority ethnic backgrounds (compared to 7 in 2017). Of those that provided data, on average, people from minority ethnic backgrounds comprise 24% of people in scientific bodies membership compared to 19% in 2017.

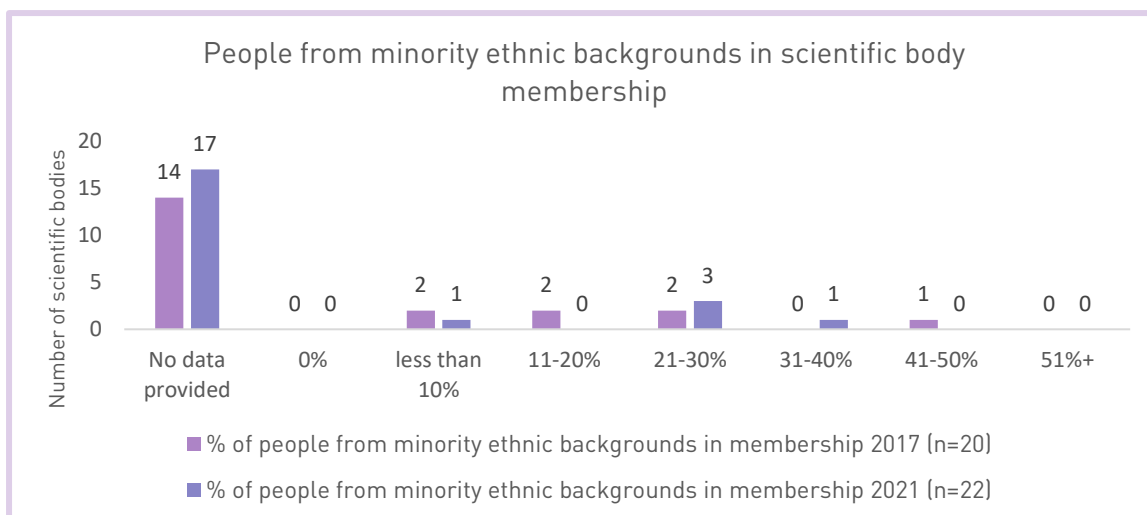


Figure 11

Other membership diversity metrics

- 6 scientific bodies provided data on people with disabilities in membership compared to 7 in 2017. Of those that provided data, on average, people with disabilities comprise 7% of scientific body membership.
- 3 scientific bodies provided data on LGBTQ+ people in membership. Of those that provided data, on average, LGBTQ+ people comprise 7% of scientific body membership.
- 4 scientific bodies provided data on religious diversity in membership.
- 15 scientific bodies provided data on age in membership. Just under a quarter (23%) of scientific body members are aged 29 and below.

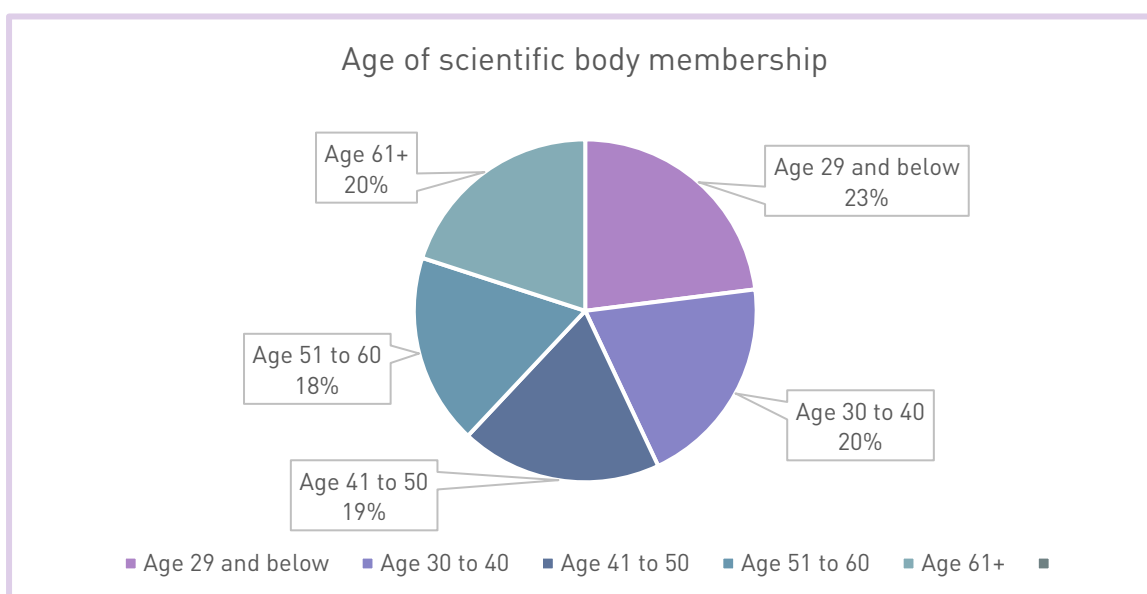


Figure 12

3.2 Diversity in registration²

Gender diversity and scientific body registrants

13 organisations provided data on gender diversity and registration, distinct from membership. On average, women represent 37% of registrants. A small number of organisations provided information on more than one register. This average figure was calculated on the basis of the first register that participating organisations provided with their benchmarking submission, so is an indicative figure only.

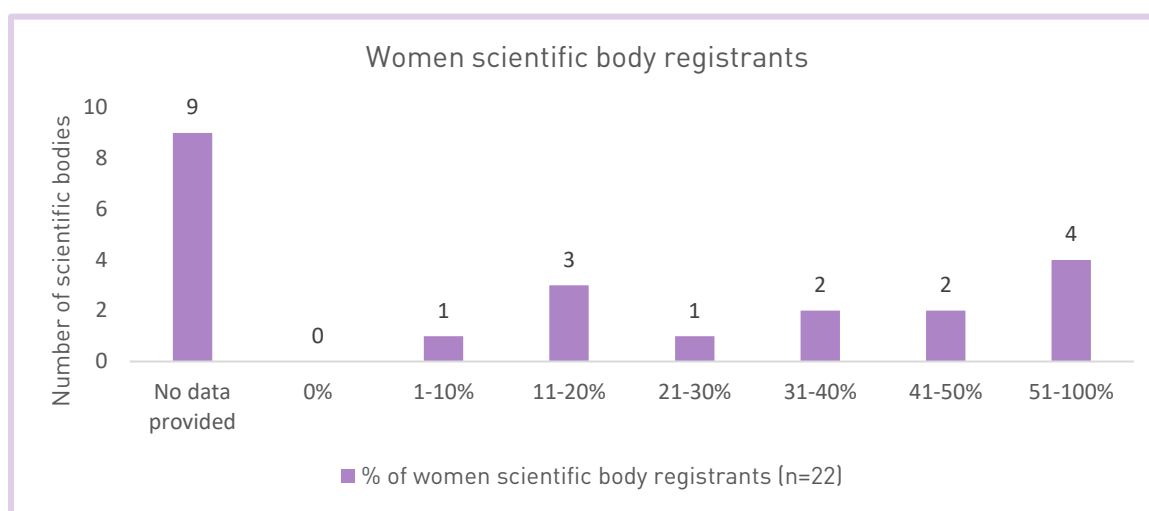


Figure 13: Note: 'No data provided' includes those organisations that do not have registrants as well as those that do but did not provide any data

Ethnicity and scientific body registrants

Only four organisations provided data on ethnicity and registration, distinct from membership. On the basis of this limited data, people from minority ethnic backgrounds comprise 19% of scientific body registrants.

² Registrants are scientists 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 10,000 people professionally registered as Chartered Scientist (CSci), Chartered Science Teacher (CSciTeach), Registered Scientist (RSci) and Registered Science Technician (RSciTech). To gain these titles, applicants join a relevant professional body licensed by the Science Council to offer registration and assess candidates.

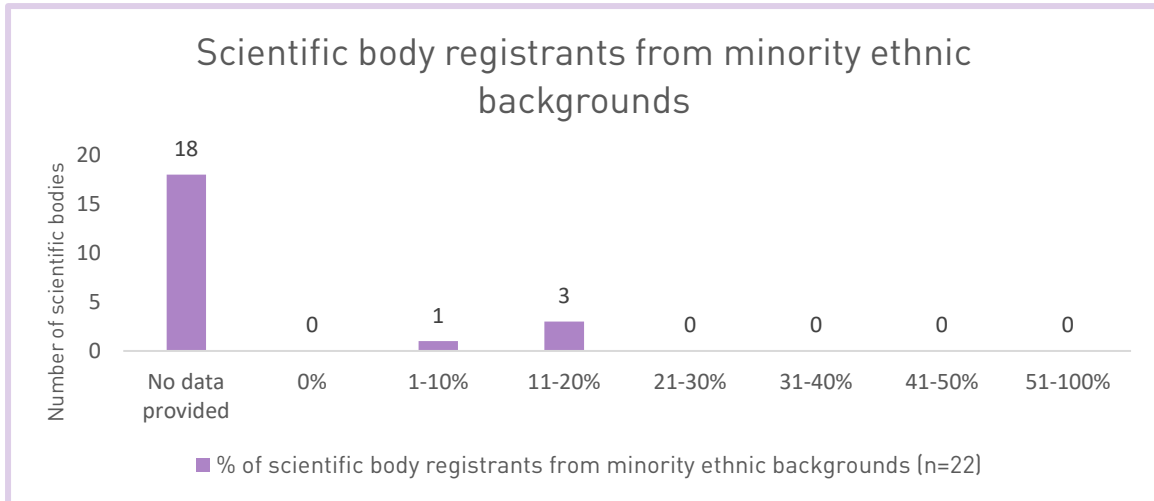


Figure 14

Other registrant diversity metrics

- Four scientific bodies provided data on disability diversity and registration.
- Two scientific bodies provided data on the representation of LGBTQ+ people in registration.
- Three scientific bodies provided data on religious diversity and registration.
- 12 scientific bodies provided data on age and registration. Only 15% of scientific body registrants are aged 29 and below.

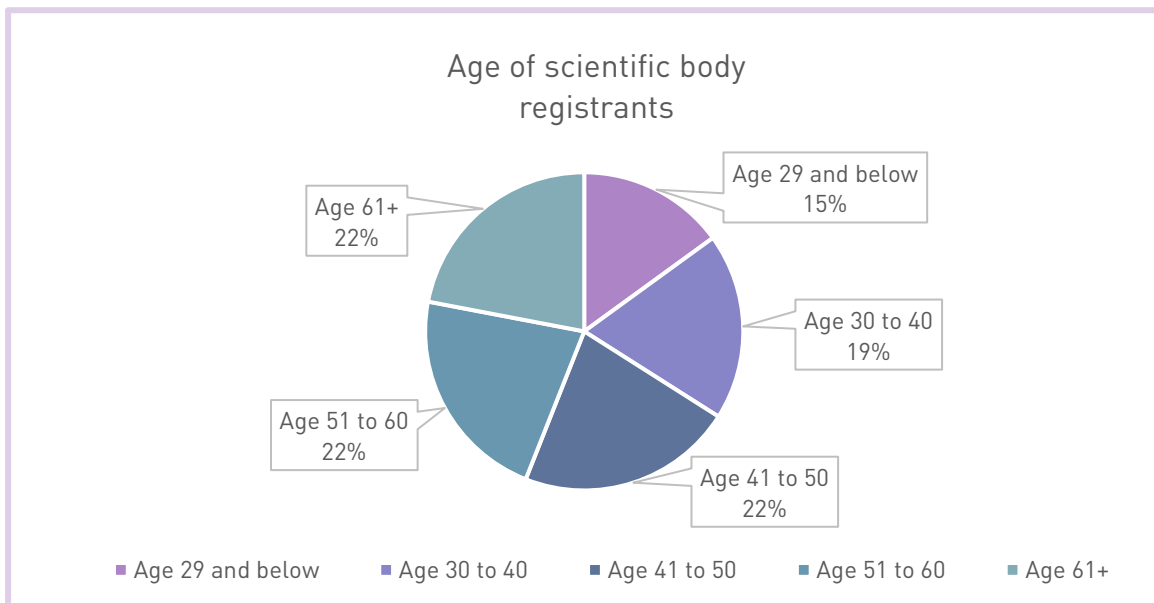


Figure 15

SECTION 4 DIVERSITY IN EXAMINATIONS, PRIZES, AWARDS AND GRANTS

4.1 Diversity in examinations

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

- Eight scientific bodies provided usable data on gender and examination pass rates. The average pass rate for women amongst the eight organisations was 57%, compared to a pass rate for men of 58%.
- One scientific body provided data on ethnicity and examination pass rates, one provided data on disability diversity and one scientific body provided data on LGBTQ+ examination pass rates.
- Seven scientific bodies provided data on age and examination pass rates.

4.2 Diversity In prizes, awards and grants

Scientific bodies awarded nearly 500 prizes, awards and grants in the last 12 months.

- 11 scientific bodies provided data on allocation of prizes, awards and grants by gender. On average, women were recognised with 41% of prizes, awards and grants.
- Four scientific bodies provided data on allocation of prizes, awards and grants to people from minority ethnic backgrounds. Of those that provided data, on average, people from minority ethnic backgrounds were recognised with 16% of prizes, awards and grants.
- Two scientific bodies provided data on allocation of prizes, awards and grants to people with disabilities, and two on allocation of prizes, awards and grants to LGBTQ+ people. Only one scientific body provided data on religious diversity and the allocation of prizes, awards and grants by religion.
- Six provided data on the allocation of prizes, awards and grants by age. Nearly 35% of prizes, awards and grants went to people aged 29 and under.

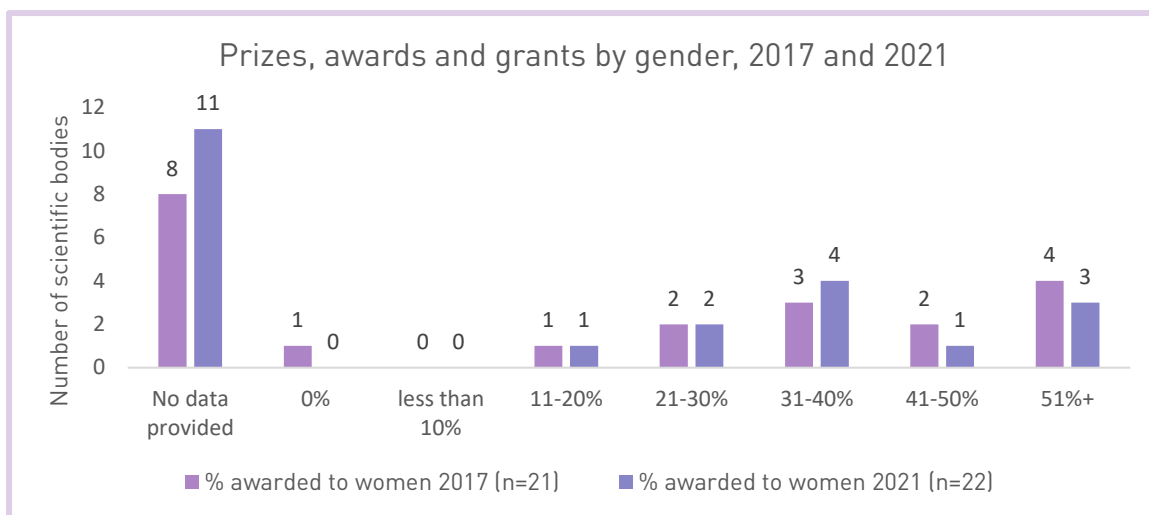


Figure 16

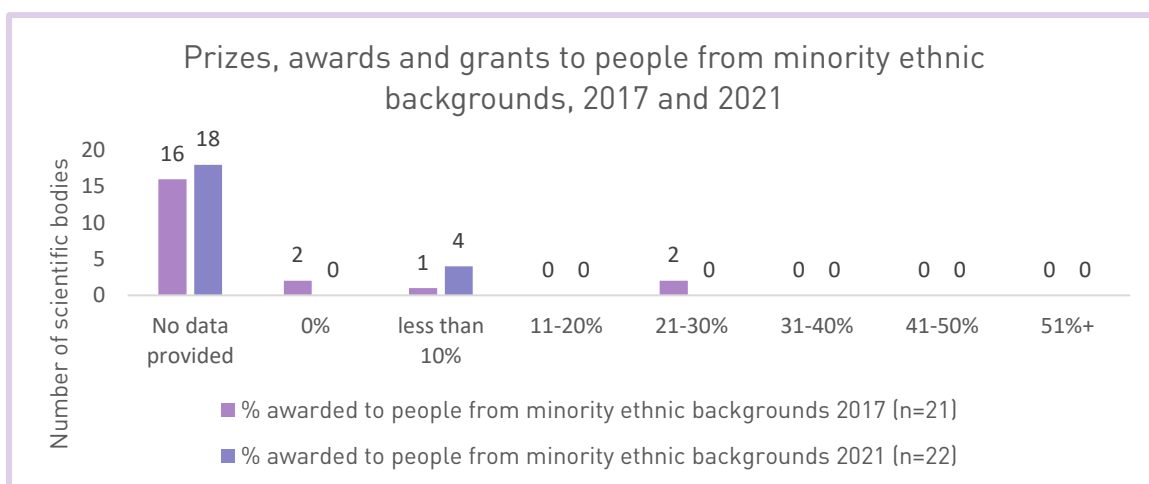


Figure 17

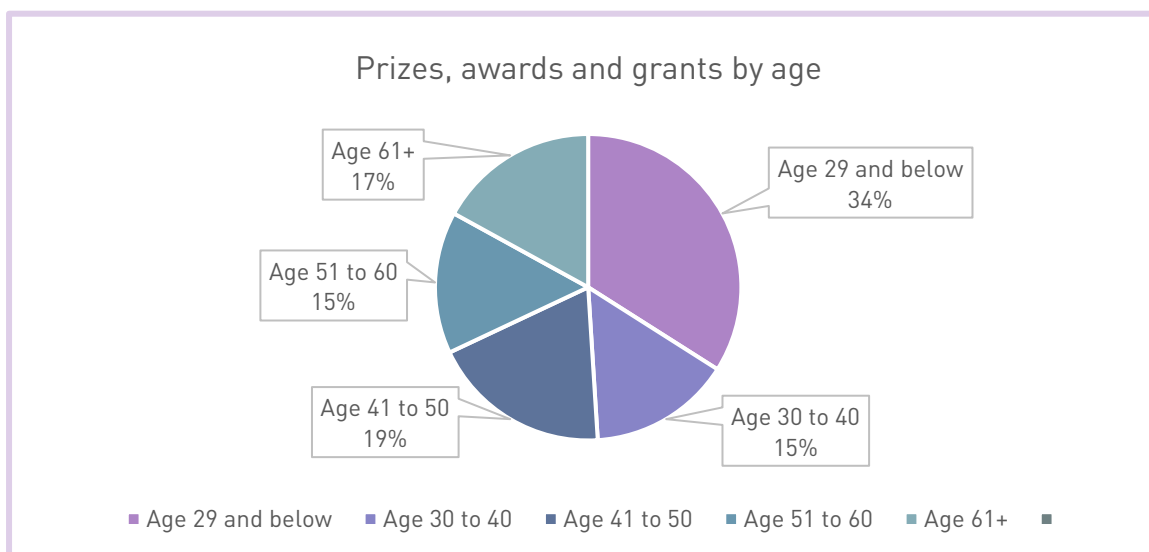


Figure 18

SECTION 5 PROGRESSION FRAMEWORK RESULTS FOR SCIENTIFIC BODIES

5.1 Introduction

In completing the Progression Framework for the 2021 benchmarking exercise, participating organisations were asked to self-assess their progress against ten areas of activity of professional engineering institutions (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 ten categories of relevance to them, by allocating a score as follows: score one where progress is self-assessed to be at level 1; score two where progress is self-assessed to be at level 2 and so on. The highest score is four, where progress is self-assessed to be at level 4. 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 for completion are available on the Science Council website.

This section presents the median self-assessment scores for scientific bodies for each of the ten 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

	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 scientific bodies	2	2	2	2	1	2	2	2	2	2

5.3 Self-assessment by section

This section presents the self-assessment of scientific bodies, for each of the ten sections of the framework.

Key messages:

- Scientific bodies self-assessed their performance to be strongest in Meetings, conferences and events (section 1.03), Communications and marketing (Section 1.07) and Employment (Section 1.09), with eight organisations assessing themselves at levels 3 and 4. Seven assessed themselves to be at levels 3 and 4 in Membership and professional registration (Section 1.02).
- More scientific bodies assessed their performance to be at level 1 in Prizes, awards and grants (Section 1.06) than any other section, with 10 organisations assessing themselves to be at level 1.

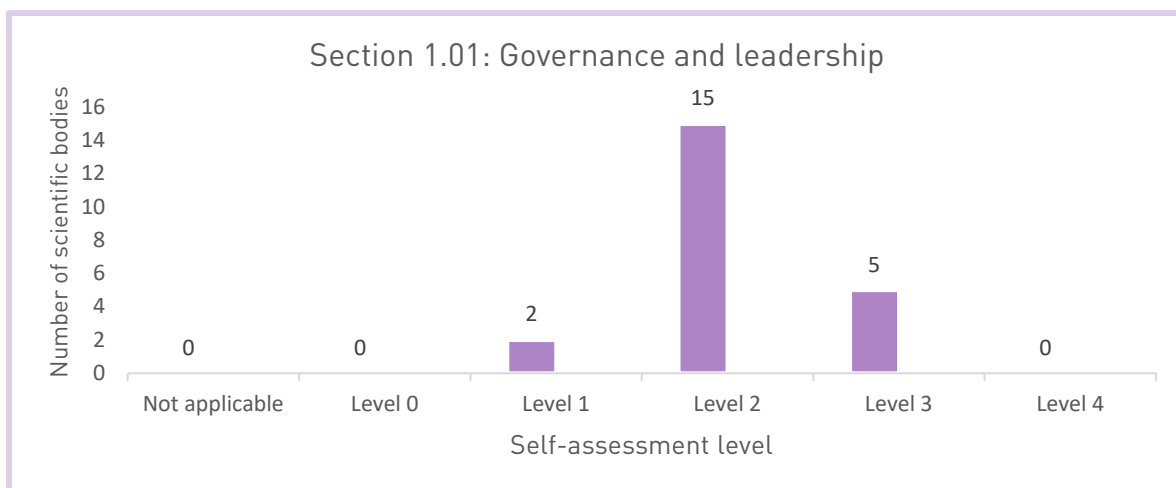


Figure 19

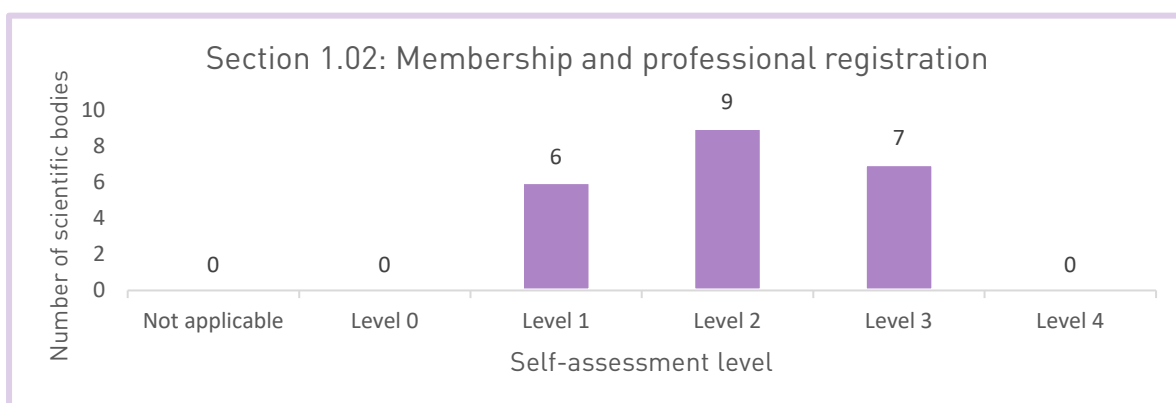


Figure 20

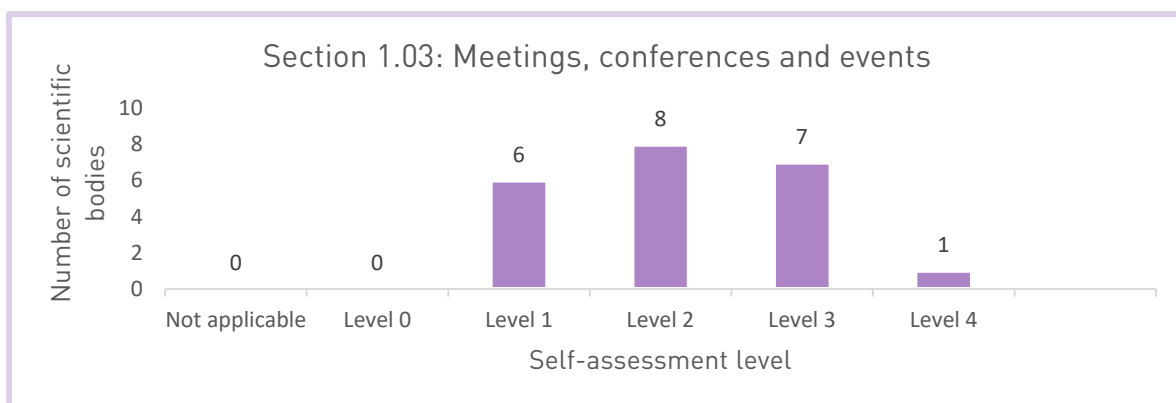


Figure 21

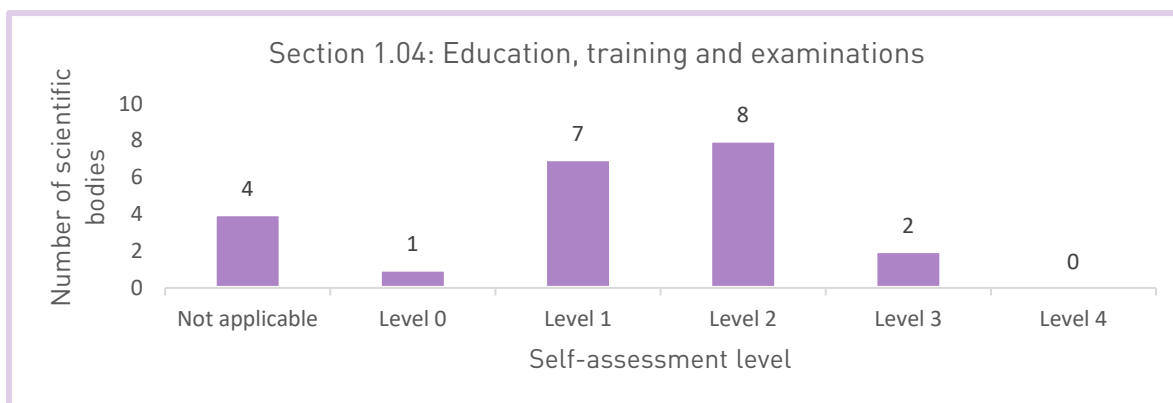


Figure 22

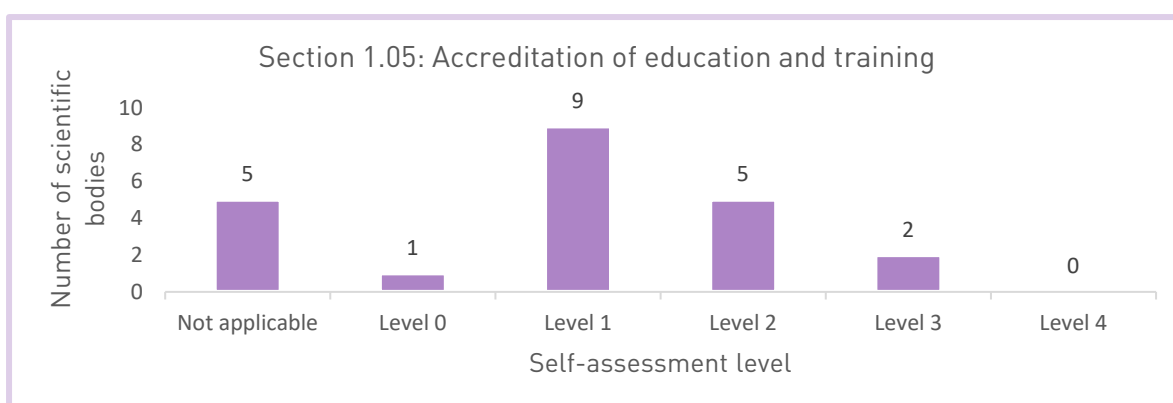


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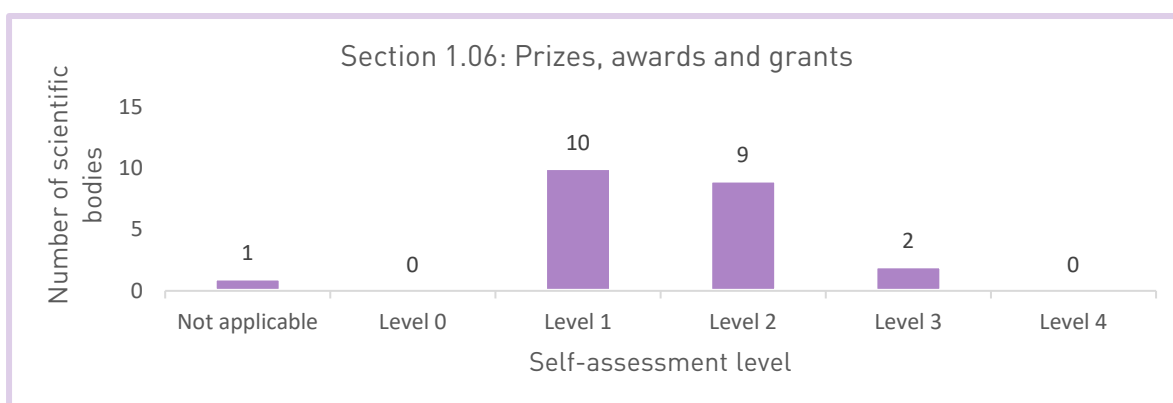


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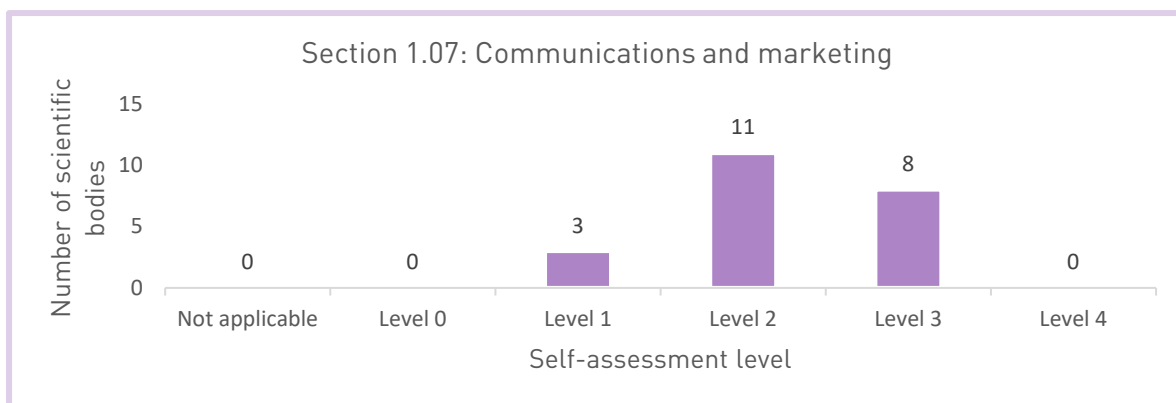


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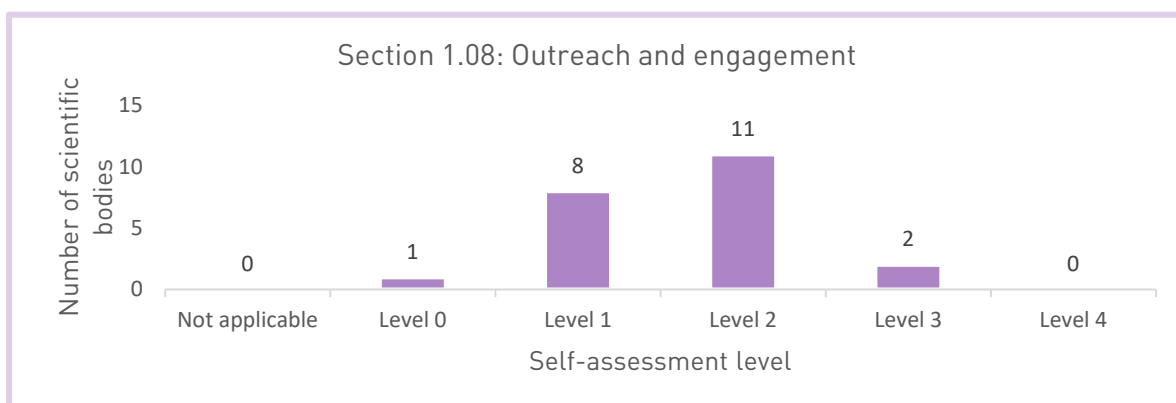


Figure 26

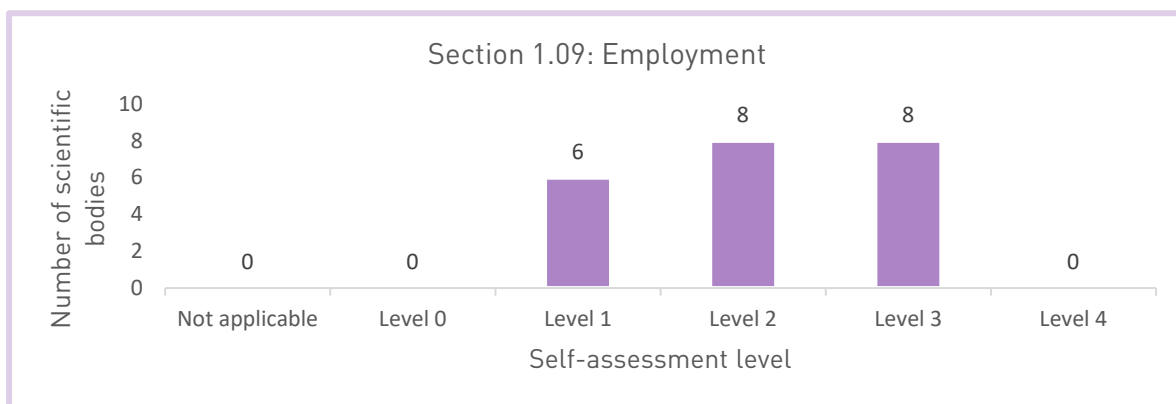


Figure 27

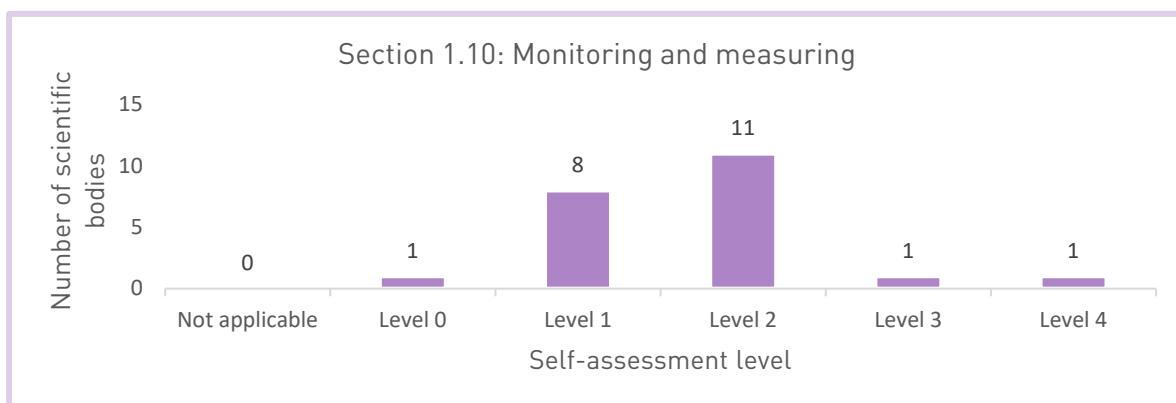


Figure 28

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 2017 about the distinction between holding and accrediting education, training and examinations (2017 Section 4) and communications and marketing, outreach and engagement (2017 Section 6).

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

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

The table below shows that there is very little difference in the median self-assessment of participating organisations across the two benchmarking exercises, in 2017 and 2021. 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 to Level 2.

	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 scientific bodies, 2021	2	2	2	2	2	2
Median self-assessment level for all scientific bodies, 2017	2	2	2	1	2	2

The graphs below compare the median self-assessment for scientific bodies 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.

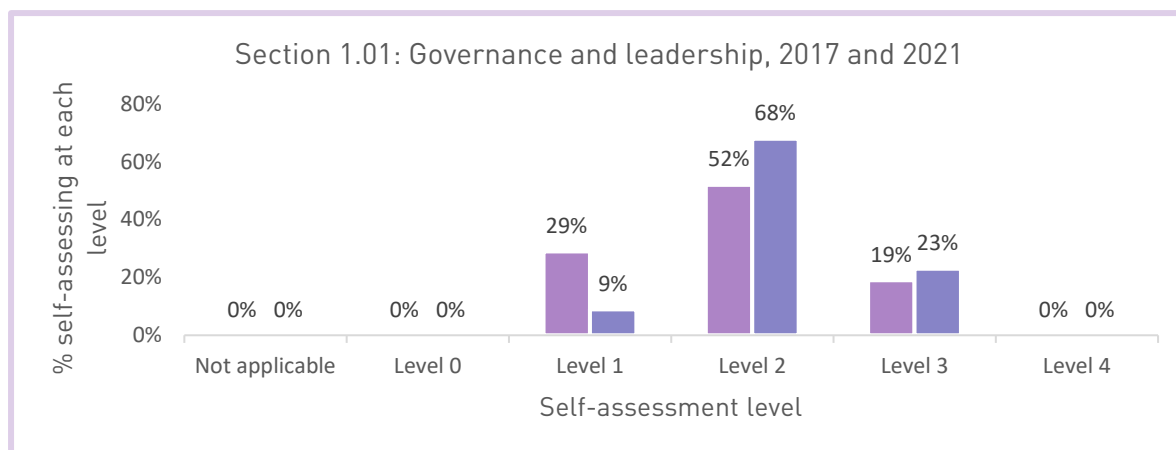


Figure 29



Figure 30

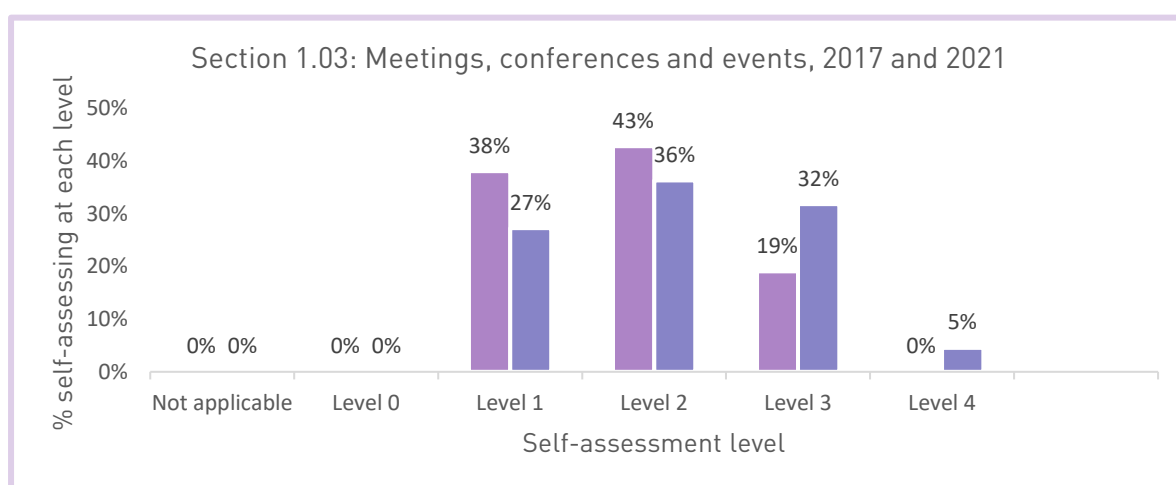


Figure 31

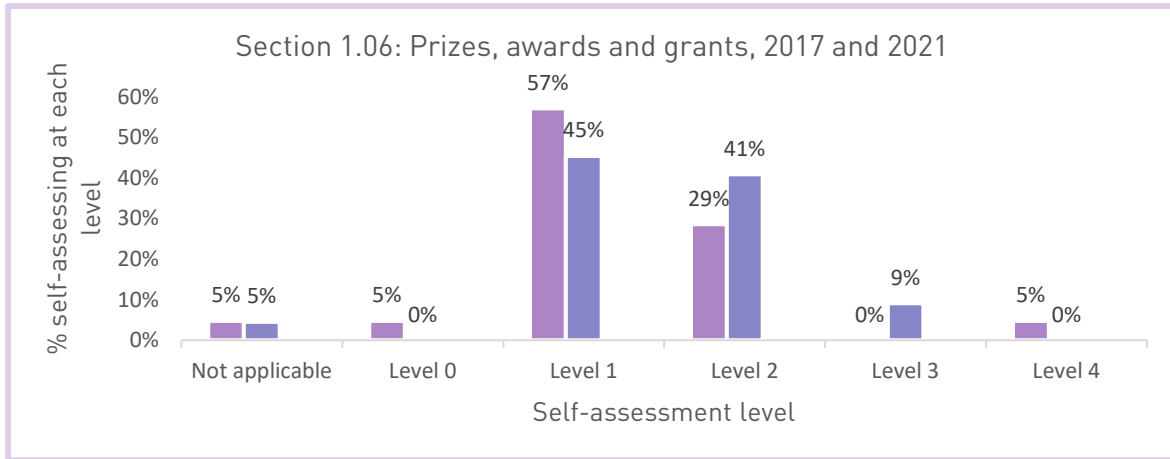


Figure 32

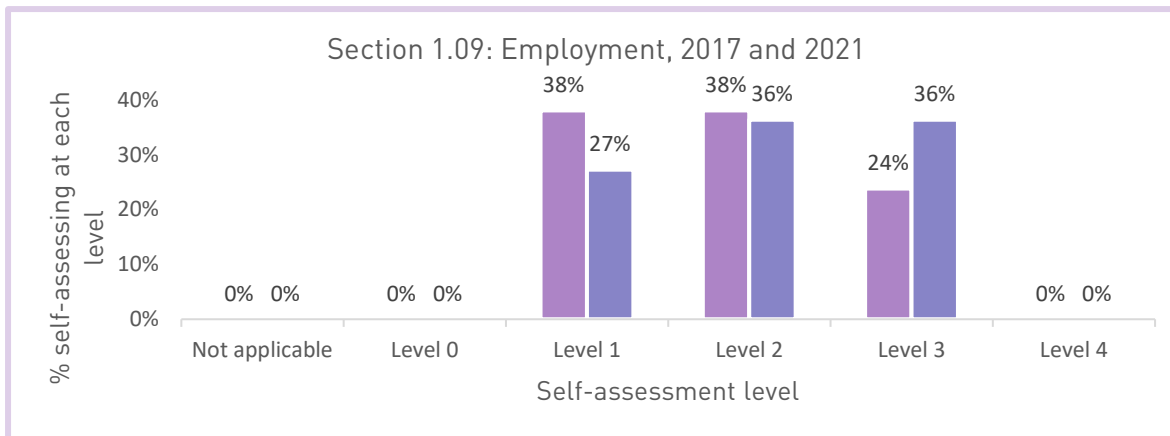


Figure 33

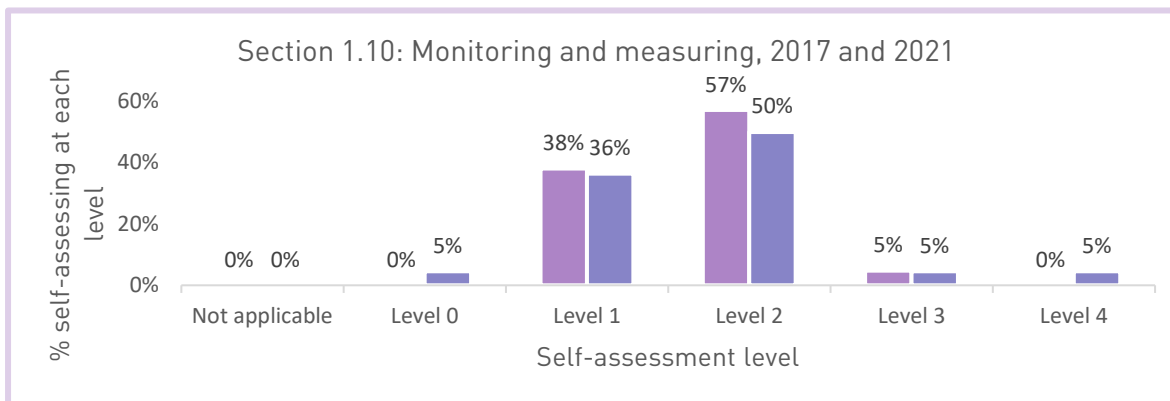


Figure 34

SECTION 6 STRENGTHS AND AREAS FOR DEVELOPMENT

Each scientific body 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 key messages back to 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 scientific bodies about their strengths on diversity and inclusion can be summarised under six headings. These are:

1. Engaging members
2. Building firm foundations
3. Establishing good governance
4. Integrating diversity and inclusion into communications
5. Collective ownership
6. Inclusive working culture

Strength 1: Engaging with members to inform approach

One of the recommendations from the 2017 Progression Framework benchmarking exercise was that scientific bodies should engage with and involve members to help drive diversity and inclusion and help establish future priorities, plans and activities. 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:

- Flexing membership fees and conditions in response to the challenging external context.
- Partnering with members to establish networks for different groups such as LGBTQ+, disability 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 2: Building firm foundations

Scientific bodies 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:

- EDI features in the strategy and business plan, it is a regular agenda item at senior leadership meetings and there is a named EDI champion on the Council.
- A robust EDI strategy has been launched with aims to expand to multiple areas of focus in the future, along with a clear roadmap outlining goals for the next 3 years with specific deadlines.
- Multiple diversity groups are consulted in the process of strategy, planning and decision-making.

Strength 3: 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:

- EDI features in the three-year strategy and named champions have been appointed at trustee level to collectively lead the agenda along with the CEO.
- D&I is woven into the strategy, the board runs governance workshops and is reviewing internal governance procedures to support D&I initiatives.
- Strong leadership on diversity and inclusion is evidenced, with D&I now a standing board agenda item and clear engagement from the CEO and trustees.

Strength 4: Integration of diversity and inclusion into communications

Positive results are being seen for those scientific bodies that are integrating diversity and inclusion into communications strategies. Examples include:

Examples:

- Guidance is made available to those responsible for communications, a conscious effort is made to diversify the pool of role models representing the organisation and inclusive messages are clear and consistent.
- The teams responsible for producing material understand the diversity of the membership and specific campaigns to provide the opportunity to share their experiences.
- Toolkits and guidance for different groups have been created to engage more effectively.

Strength 5: Collective ownership

Scientific bodies 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 EDI into the day-to-day work of individuals, and the organisation as a whole.

Examples:

- Promising signs of growing ownership for diversity and inclusion across the Society.
- Establishing a statement of intent and creating a presidential task force to help develop workplans across the Society.
- Collaboration and co-creation with leaders, employees and volunteers to maintain momentum and engagement.

Strength 6: Creating a more inclusive working culture

Scientific bodies are recognising the importance of a diverse and inclusive work culture to support their action on diversity and inclusion for members.

Examples:

- The workforce has been actively engaged with the organisation's EDI ambitions and several members have been directly involved in working group discussions and leading activities in their areas.
- Leaders have undertaken training on EDI issues, have introduced standardised recruitment practices and the culture is supportive of flexible working.
- All those involved in decision-making have been made aware of the organisation's diversity and inclusion ambitions and employees have been canvassed for their ideas on creating a more diverse and inclusive workforce.

6.2 What are scientific bodies proud of?

In Section 2 of the Framework, scientific bodies were asked to give examples of what they are most proud of on diversity and inclusion in their organisations. Examples were given across many sections of the Framework:

Governance and leadership

- Senior buy-in (trustees and other committees) to the importance of this work.
- We are proud that the current board has taken our commitments to diversity seriously.
- We are proud of our new strategy as we have diversity and inclusion as a core theme running through it. Our aspirational targets are an indicator of our ambitions to improve the landscape and the resources behind it prove our top-down demonstrable commitment to D&I.
- Achieving recognition at trustee level and senior management of the importance of this work helped by some very engaged trustees. This has led to a change of our

strategic values and they now include "Inclusive" which will hopefully help shape our direction further.

- The progress that has been made over the past 12 months, in particular, which has resulted in the benchmark scores being higher than anticipated. The commitment of the Society to the time of a member of staff, which has been essential in achieving the progress made thus far.
- We are most proud of advocating and designing a strategic vision to reflect the whole community's diverse needs and concerns. Our acknowledgement of D&I at the highest level is integrated clearly into our business plan and heavily acknowledged at the board level and across our committees and groups.
- We have a diverse workforce and the board is totally committed to us being an equitable organisation and the D&I committee are being involved directly in the governance of the organisation.

Membership and professional registration

- The formation of small, dedicated EDI team, alongside new partnerships and active opportunities for member engagement in webinars, blogs and communications. This commitment has placed us in a strong position to further build EDI governance structures during 2021/22.
- Sharing information and brokering good practice across the membership.

Meetings, conference and events

- Our online events over the last 12 months have supported diversity and inclusion to allow increased attendance from overseas members.
- In 2020, we held a series of webinars which has created a lot of discussion around white privileges; a video recording of this has been shared across our membership and further afield.

Communications and marketing

- We have made good progress over the past 12-18 months on increasing the diversity of images used in our communications and marketing.
- 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 minority ethnic feature stories (to name a few) and this is on a monthly basis.
- We are proud of the progress made recently to show our support for various national and global diversity 'Days'. Social media has been a key platform for both staff and members for propelling our EDI agenda into a wider domain, and have visibly engaged with both national and global diversity awareness campaigns such as Pride and Black History Month.

Outreach and engagement

- All staff are aware of the need to incorporate EDI thinking [into engagement activities] especially with regards to our online presence. Although there are still many improvements to make in this area it is extremely encouraging that so many

staff are actively engaged in this and it shows! Looking at the data we collect from online activities shows a major increase in engagement from more diverse groups than ever before.

Employment

- As an organisation we have done a lot of work to ensure that we have a diverse workforce and improved our flexible working opportunities.
- We are also proud of proactively engaging and supporting workplace dialogue around diversity topics, resulting in reinforcing employee values and associated inclusive behaviours. As an organisation, we actively encourage new ideas from staff members on ways to expand diversity and inclusion in the workplace.

Monitoring and measurement

- The change in our systems to allow us to collect the information on our membership.
- Capturing diversity data at the point of becoming a member and renewing membership.
- Believing that transparency is key we have examined our own activities, and the extent to which they are representative of the entire community in our first diversity data report – a collection of data that crosses the breadth of our organisational activity – including membership, education, publishing, grants and much more. For each of the issues we have investigated we have spearheaded action driven by the data.

Increasing representation

- The membership voted in the first ever female Chair-Elect and proud of the female gender split of the Operations Team.
- Focusing on increasing the number of female members of the society has continued as one of our strengths.
- Many of our committees and volunteer roles have a good gender balance and among senior roles (trustees and chairs) there is strong representation from members outside the UK (not expats) and many of these are female.
- Ensuring that there is more female representation across our governance structure.

Other under-represented groups

- We are also working on our Diversity Initiatives, which aim to openly engage in research and dialogue around what individuals from different ethnic backgrounds are living through and have faced historically. Whilst in its early stages, these Diversity Initiatives have a lot of internal excitement and engagement, across all levels, and we feel this could have a great, positive impact on the sector.

6.3 Areas for development

The individual feedback to each organisation participating in the Progression Framework identified a number of 'areas for development' where individual performance could be improved for the future. Six key areas for development emerge from the combined results of the completed Progression Frameworks across the 22 scientific bodies. The benchmarking report for 2017 also identified similar areas for development. There is overlap between strengths and areas for development. scientific bodies are in different places in terms of their progress on EDI and an area for development for one organisation might be a strength for another

The six themes are:

1. Data gathering, monitoring and measuring
2. Integrating diversity and inclusion into core functions and activities
3. Securing and sustaining commitment
4. Strategies, plans and priorities
5. Formalising the approach
6. Extending the scope of diversity work to other under-represented groups

1 Data gathering, monitoring and measuring

Data gathering on diversity and inclusion remains a major challenge for scientific bodies. The feedback to 21 of 22 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. More scientific bodies gather data on gender and age, but data gathered on other protected characteristics - in leadership, membership, registration and employment - is very limited. This was also identified as a key development area in the last benchmarking exercise. Without data it is a real challenge to prioritise,

target, design or assess the impact of any intervention on diversity and inclusion. In short, it appeared as an area where many scientific bodies would continue to benefit from further guidance and support.

2 Integrating diversity and inclusion into core functions and activities

The need to build diversity and inclusion into different areas of activity was a common theme across the priority areas for action shared by the scientific bodies. Some scientific bodies 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. Scientific bodies 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.

3 Securing and sustaining commitment

Several scientific bodies 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, secure resources, but levels of commitment and accountability, especially at senior levels, remain inconsistent.

4 Strategies, plans and priorities

A number of scientific bodies are juggling multiple 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.

5 Formalising the approach

Linked to the previous section, whilst there are many examples of good practice actions being undertaken across scientific bodies, few have a clear plan in place for how they will address the need for change. 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.

6 Extending the scope of diversity work to other under-represented groups

The majority of scientific bodies are focusing their diversity and inclusion attention on gender and age. Far fewer are monitoring or taking action specifically to increase diversity and inclusion in other areas including disability, ethnicity or LGBTQ+. For those 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 science.

SECTION 7 NEXT STEPS: PRIORITIES AND CHALLENGES AHEAD

7.1 Priorities

Scientific bodies were asked to identify their future priorities on diversity and inclusion. Across participating organisations, five themes emerged as 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

The area of developing a more strategic approach to diversity and inclusion was a common theme across scientific body submissions.

Examples:

- We need to get the leadership strategy embedded and rolled out across all areas of activities.
- Over the next 24 months, the priorities are identifying the gaps for the organisation and the progress that needs to be made.
- Shaping and mapping governance structures in relation to EDI, with the aim of introducing a new scrutiny level board and implementing clear EDI strategic goals, outcomes and measures.
- The main priority is to increase the response for data that we wish to collect in order to understand our current position on ethnicity, nationality and age. Once the data has been collated and analysed, we can determine our position and outline our objectives for diversity and inclusion in the long-term.
- Approving the ED&I strategy.
- The main focus is to make a formal strategy and action plan for governance, and to improve data collection within every division across the institute.
- Agree and roll out the Programme and bed in the governance around this. Keep the momentum and grow the community of ambassadors.
- Ensure the Diversity and Inclusion Committee is in place to oversee progress against the Diversity and Inclusion Progression Framework and prioritise activities relating to the framework.
- To outline a clear strategy and action plan to complete aims and impact measurement of our D&I work for the rest of 2021 and feed into our next business plan.
- Developing an EDI strategy and action plan.
- Draft action plan based on gap analysis and produce a report for consideration to include areas for improvements linked to the 4 key pillars.

Priority 2: Data gathering

The priority for many scientific bodies is establishing systems to gather data on diversity metrics, for members and other stakeholders, and to make best use of that data.

Examples

- The launch of new equality and diversity data collection tools, enabling us to move beyond perception based analysis of staff and member needs.
- Improving our data collection capabilities and embedding them throughout the Society's activities is a priority area.
- To put in place a plan to collect and monitor relevant diversity data from our membership.
- Improve our diversity data monitoring and investigate how we can best achieve collecting data from all members - this will require a new database so is a longer term project.
- We still have work to do on prizes, awards and grants – whilst we have made good progress on membership awards we still have issues to address on scholarships.

Priority 3: Developing training and guidance

Several scientific bodies included developing training and guidance for stakeholders (trustees, staff, members and other stakeholders) as one of their priorities for the next 12-24 months.

Examples

- Making sure we can roll our 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.
- We are working on plans to implement an Inclusivity Protocol which is being designed to offer best practice guidance to all of our outward facing activities.
- To create and deliver blended EDI training for all staff.

Priority 4: Targeted activities for specific demographics

Several scientific bodies are prioritising starting or sustaining targeted activities for specific demographic groups, particularly in relation to membership.

Examples:

- Age, LGBTQ+, ethnic minorities: in order to increase the diversity of speakers at our events and in our committee membership, we need to increase the diversity of our membership as a whole to provide a broader pipeline of people to approach and draw on.
- We will deliver our pilot study exploring the experiences of different ethnic groups. This will form the proposals for additional research projects and/or action projects for the following years to address the ethnic diversity gap in our sector.
- Using survey results to break down barriers to female membership and in the work place that have been identified.

- Develop a deeper understanding of the factors leading to current inequalities for black and minority ethnic-identifying people around career progression and retention.

Priority 5: Building external presence

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

Examples:

- Promoting our diversity pledge and achievements to members.
- We do a lot of D&I work however there doesn't seem to be an online area to put all of our great work together so we would like to create an interactive space on our website. Our networks are also asking for LinkedIn private spaces to have ongoing conversations.

7.2 Challenges ahead

Scientific bodies were asked what they saw as the 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

Over a third of participating scientific bodies identified challenges relating to data collection. Specific challenges include:

- A lack of a clear, public strategy on equality, diversity and inclusion, as well as the data to back up informed choices in the direction of future work.
- Our main challenge on making progress on EDI is our data collection capabilities.
- A lack of membership diversity data. We do not have a comprehensive understanding of the diversity of the membership beyond gender, age and geographical distribution.
- We continue to be challenged by not having available data. This is partly IT related and partly due to us not collecting the relevant data from our members.
- Improving our systems and methods for data collection is necessary to progress IDE capabilities.
- Our biggest challenge is collecting data. This is especially challenging because we don't just want to ensure that our membership is diverse - ultimately, our end goal is to ensure that the profession that we represent is as diverse as possible.
- Reaching a common consensus amongst personnel to outline a commonly agreed, clear, realistically achievable and measurable formal strategy for collaborative

improvements relating to the most efficient, effective, legal and ethical methods for collecting and analysing data pertaining to diversity and inclusion.

- We are constantly reviewing and further developing our methods of diversity data collection. We will work both internally and externally to further develop trust within our community to encourage higher rates of self-reporting as where self-reporting is low we aren't able to learn as much from our data and cannot transform that into corrective actions where needed.
- Diversity data and measuring progress.

Challenge 2 Resourcing the work on diversity and inclusion

Challenges relating to resourcing the work on diversity and inclusion, in particular staffing was another common theme. Whilst many scientific bodies have a large membership, several have a small staff, and some are run solely by volunteers. Financial, human and time resources are seen by some as a challenge to making progress on diversity and inclusion.

- We are only a small team covering all aspects of running the Society which means we do not have one person specifically focused on diversity and inclusion only.
- Our initiatives must be membership/volunteer lead as we do not have enough employee resource to run them.
- Capacity within the organisation to develop and embed ED&I.
- I would say the biggest challenges we face are resource availability and knowledge.
- Shortage of resources - with only limited staff we have to prioritise what we do.
- The scale of the challenge versus the resources available. We have identified focus areas and communication around this is key to explain why everything is not being covered.

Challenge 3 Securing and sustaining engagement

A number of scientific bodies 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:

- A key challenge is influencing the wider community to engage with our ambitious targets for EDI. We are in the process of creating a document on 'The business case for EDI' which will explain why EDI is, and should be, at the core of our work.
- In some cases, overcoming the attitude amongst senior members that it is a niche, 'pc' activity that organisations 'just have to tick off' rather than something meaningful.

Challenge 4 The wider context

A number of scientific bodies also referenced the lack of diversity and inclusion in the wider context as a significant challenge in making progress in their own organisations:

- There is a need to change public perception of a stereotypical scientist - we cannot do this alone. It requires collaboration with other scientific bodies and organisations and ideally government endorsement and backing.
- The relatively lower diversity of the profession compared to the population as a whole is also a challenge in this area.
- We 'inherit' an already very un-diverse profile shaped by inequalities in the entire education system.

SECTION 8 CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

As in 2017, the Progression Framework 2.0 benchmarking exercise has highlighted that scientific bodies have a lot in common, and need support on similar areas, in terms of enablers and barriers to progress on diversity and inclusion. This is true whatever level scientific bodies self-assess at. At the same time, scientific bodies 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.

1 Leadership and governance

It is encouraging that scientific bodies reported that they had made headway in developing senior leadership commitment to diversity and inclusion with many reporting that they were proud of the progress they had made in this area. Most scientific bodies have appointed board level members as a named lead or sponsor for diversity and inclusion and many have a clear sense of their forthcoming priorities. The inequalities exposed by the Covid pandemic has activated some organisations to widen focus beyond gender, for example to ethnicity, and are reporting that diversity and inclusion issues are moving up the list of priorities.

2 Membership engagement

It is also encouraging to see that the recommendations from the 2017 Progression Framework benchmarking exercise - that scientific bodies should engage with and involve members to help drive diversity and inclusion - has been acted upon. In 2021 there has been a step change in collaborative working, particularly with members, to ensure the work on diversity and inclusion is informed by and responds to stakeholder needs.

3 Gathering and monitoring data

The collection of diversity monitoring data is essential in providing the information and insight to make informed and impactful change. Fewer scientific bodies provided usable diversity data in 2021 than in 2017 and some were reliant on observational data rather than capturing data using robust systems. Scientific bodies are still finding it a challenge to gather much data on diversity, beyond gender and age. Gathering data on ethnicity seems to be a challenge, with fewer scientific bodies providing data on ethnicity than on gender in all categories in which data is requested - boards, senior leadership, membership and registration. 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. It is heartening to see that some scientific bodies have a mature approach to collecting data and are beginning to incorporate intersectional data points. Developing a mechanism for organisations to share the successes and challenges could provide a catalyst for scientific bodies to progress more quickly in this area.

4 From ad hoc to mainstream

A step change could be achieved on diversity and inclusion if scientific bodies work to engage members and staff more widely and if the focus of activity on diversity and inclusion is built into every area of activity. Scientific bodies need to develop their vision, strategy and action plan, underpinned by a robust governance and accountability framework to make progress. This approach positions diversity and inclusion as central to the purpose of the organisation and explicitly outlines the responsibilities for achieving diversity and inclusion ambitions.

5 Self-assessments

There is very little overall movement in the self-assessment of scientific bodies on their work on diversity and inclusion since 2017. The differences between the two frameworks notwithstanding, it's clear that, as in 2017, most scientific bodies see themselves as operating at Level 2 in most areas in 2021. In broad terms that's 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 scientific bodies 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 next three years.

The recommendations below build on these concluding themes.

8.2 Recommendations

In this section we list 5 recommendations for action that will support scientific bodies in making further progress on diversity and inclusion. The recommendations address the conclusions noted above and the areas for development highlighted in this report. Many of these recommendations are aligned with those given in individual feedback to the scientific bodies.

Recommendation 1: Identify and address barriers to data gathering

Monitoring data is key to assessing progress on diversity and inclusion. We recommend that scientific bodies 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 science.

Some of the barriers which scientific bodies 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 scientific bodies 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 scientific bodies are continuing to broaden the scope of their work on diversity and inclusion beyond gender. 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 lived experiences of (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, 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 scientific bodies. Our recommendation is that the Science Council, in collaboration with the Royal Academy of Engineering, 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.

APPENDIX 1: PROGRESSION FRAMEWORK OVERVIEW

The Progression Framework was developed in collaboration between the Science Council and the Royal Academy 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 ten areas of activity of scientific body and professional engineering institutions (PEI), and provides a framework for data collection on diversity and inclusion.

The ten 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 collaboration between the Science Council and the Royal Academy of Engineering 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 ten 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 organisation.
- Within each section of the Progression Framework the level indicators are grouped more clearly into three consistent themes:
 - o Leadership, Strategy, Planning and Accountability
 - o Policies and Procedures
 - o 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 2021 Progression Framework benchmarking exercise, participating organisations were asked to self-assess their progress in each of the ten 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 (www.forbusinessake.com), an independent consultant on diversity, inclusion and organisational change. The consultants were commissioned by the Science Council and the Royal Academy of Engineering 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 in a single Excel spreadsheet, including both self-assessment and text evidence. Only the participating organisation and the consultants see each submission or have access to the single Excel spreadsheet. The consultants worked with the content of the single Excel spreadsheet to calculate numerical benchmarks and to compare self-assessment levels and qualitative evidence from participating organisations, overall and by profession (science and engineering).

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 (professional engineering institutions (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 you 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 (fbs) consulting (www.forbusinesssake.com). The Science Council and the Royal Academy of Engineering 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. 21 of 22 participating scientific bodies 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.
- 21 of 22 participating scientific bodies 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 scientific bodies 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.

APPENDIX 4: LIST OF PARTICIPATING ORGANISATIONS

40 engineering and science professional organisations participated in the 2021 benchmarking exercise. We are grateful for all their input and efforts which have contributed to the findings and recommendations in this report.

We wish to thank the following Science Council Member organisations for their participation:

Biochemical Society
British Psychological Society
Chartered Institution of Water and Environmental Management
Institute of Biomedical Science
Institute of Food Science & Technology
Institute of Physics
Institute of Physics and Engineering in Medicine
Institution of Chemical Engineers
Royal Meteorological Society
Royal Society of Biology
Royal Society of Chemistry
The Association for Clinical Biochemistry & Laboratory Medicine
The Association for Science Education
The British Association of Sport and Exercise Sciences
The British Society of Soil Science
The Geological Society of London
The Institute of Materials Minerals and Mining
The Institute of Water
The Institution of Environmental Sciences
The Operational Research Society
The Organisation for Professionals in Regulatory Affairs



About us

The Science Council's purpose is to promote the advancement and dissemination of knowledge of and education in science, pure and applied, for the public benefit. To fulfil this purpose, the Science Council advances professionalism in science through the professional registration of scientists and technicians who meet a high professional standard and competence and follow an established code of conduct. We provide our member bodies with a forum to raise standards through sharing practice and knowledge, and to hold each other to account through a peer-review approach.

Our declaration

By living the values of equality, diversity and inclusion, and critically assessing and acknowledging the inequalities that exist, the Science Council and its member bodies will create greater opportunity for any individual to fulfil their scientific potential, irrespective of their background or circumstances. In so doing it will also help science to better serve society by attracting the widest possible talent to the science workforce and fostering a greater diversity of scientific ideas, research and technology.

Our commitment

The Science Council is committed to widening participation in science education and the workplace. To this end the Science Council and its member bodies declare a commitment to promote equality, diversity and inclusion throughout their communities and challenge prejudice and discrimination. As a leading voice in science and the application of science, the Science Council will seek every opportunity to be proactive in promoting and communicating this vision to educators, employers, policy makers, opinion formers and other publics.

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