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# IMPACT AT A GLANCE

THE AMBASSADOR HAS COMMUNICATED WITH



HAS REACHED SINCE LAUNCH

UNIQUE PARTICIPANTS SINCE HER APPOINTMENT



**APPEARANCES OR MENTIONS** IN THE MEDIA IN 2021



COLLECTIVE

REACH & **92% FAVOURABILITY** IN 2021



**EDUCATORS & YOUNG PEOPLE REACHED IN 2021** 



**HOURS OF** OUTREACH **ACTIVITIES** SINCE HER **APPOINTMENT** 



WISA SOCIAL MEDIA

**EVALUATION GUIDE DOWNLOADS** SINCE LAUNCH IN 2020



**HOURS OF ADVISORY** MEETINGS AND **PRESENTATIONS** IN 2021

# EXECUTIVE SUMMARY

The Australian Government's Women in STEM Ambassador, Professor Lisa Harvey-Smith, has marked three years in the role as she continues to spearhead efforts to increase the participation of Australian women and girls in STEM.

Since her appointment, the Ambassador has undertaken 344 hours of outreach and engagement, communicating with 121,438 unique participants including students, teachers and educators, policymakers, STEM research organisations and industry representatives, as at 31 December 2021.

As part of her advisory and advocacy work in 2021, the Ambassador connected with and influenced a broad range of government agencies, education and industry leaders on systemic change measures that will pave the way for women's greater participation in STEM. From January to December, Professor Harvey-Smith committed 93 hours to meeting with and presenting to stakeholders across government departments and agencies, peak bodies, advocacy organisations, industry and workplace leaders, educators and policy makers, and spent many hours reviewing and providing feedback on discussion papers, policy papers, program reviews and other documents of significance.

The Ambassador delivered 45 hours of public outreach and engagement to an audience of 73,244 in 2021. Significant events included keynote presentations at conferences and celebratory occasions such as Wear it Purple Day, National Science Week, and International Day of Girls

and Women in Science. The Ambassador also participated in several international webinars in partnership with the Department of Foreign Affairs and Trade (DFAT), Australian Ambassadors overseas and foreign embassies in Australia. The Office of the Women in STEM Ambassador (the Office) delivered two public online evaluation webinars to promote evaluation as a priority action that will remove barriers to girls' and women's inclusion in STEM.

72,241 educators and young people were reached by the Ambassador directly through virtual learning engagements in their schools, at conferences, or via the <u>DART Learning</u> platform. Notable engagements included keynote presentations for the <u>National</u> Youth Science Forum Year 12 Program, the Women in STEM presentation for <u>Science Alive!</u>, hosted by South Australia's Chief Scientist, Professor Caroline McMillen, and Stories that Matter for Kids as part of <u>Australian Reading Hour</u>, hosted by the Sydney Opera House.

The <u>Future You</u> awareness raising initiative for STEM careers campaign was expanded in 2021, with two new animated characters unveiled that were designed by children as part of the Create Your Future You competition. Pathma the Product Development Scientist and Molly the Materials



Professor Harvey-Smith delivering the Women in STEM presentation for Science Alive!

Engineer were launched by Australia's Chief Scientist Dr Cathy Foley on the 2nd of June. Since its launch in October 2020, Future You has reached an audience of 3.1 million, including children aged 8–12 years and their teachers, parents and carers, as at 31 December 2021.

We continue to run major research projects including a study of the impacts of anonymous peer review on grant outcomes as well as a longitudinal analysis of awarded Australian grants by gender. Alongside data collection, we have been consulting with the organisations involved to discuss how each research project will guide future recommendations and actions. For each project, we will submit manuscripts to academic journals by the end of 2022.

In July 2021, we received additional funding to develop an online evaluation tool and repository for STEM equity programs. The STEM Equity Evaluation Portal (the Portal) will function as an extension of and complement to the National Evaluation Guide for STEM Gender Equity Programs (the Guide). This year we have commenced planning for the development of the Portal, including conducting broad stakeholder and public consultation via an online survey. The launch of the Portal will take place in October 2022.

From January to December 2021, our media activity totalled 548 media appearances or mentions reaching a collective 18.1 million people and consistent 92% favourability. Large-scale media coverage of the Women in STEM Ambassador and broad engagement with key audiences and STEM stakeholders indicates that we are active in the community and strongly communicating key STEM gender equity messages. The Ambassador featured prominently on radio, online and TV, with mainstream media (national and regional) as the leading source of coverage, including ABC News, ABC Radio, the Australian Financial Review and The Australian. Industry-specific media targeted industries of national significance such as cyber security and engineering with the gender equity message. This included features in the Australian Women in Security Network, KBKast Podcast and *Engineers Australia*. The Ambassador was featured in *The Australian's The List 100 innovators* magazine, as well as an opinion piece about the low enrolment numbers of girls in STEM subjects in the HSC in the Australian Financial Review. Her work was also highlighted in a feature in the Australian Women's Weekly, reaching a total potential audience of 3.2 million people.

# OVERVIEW

This annual review provides a summary of the activities and achievements of the Office of the Women in STEM Ambassador in the 2021 calendar year.

#### **About Us**

The Women in STEM Ambassador is an Australian Government initiative to address gender equity in science, technology, engineering, and mathematics (STEM).

In October 2018, the Australian Government announced Professor Lisa Harvey-Smith as the Women in STEM Ambassador, a position outlined in the 2018-19 Budget as part of a \$4.5 million package to encourage more women into STEM education and careers.

In September 2020, The Hon Karen Andrews MP, then Minister for Industry, Science and Technology, announced the continuation of Professor Harvey-Smith's work as the Australian Government's Women in STEM Ambassador for an additional two years. The Australian Government is providing \$3 million over 2018-19 to 2021-22 for the Women in STEM Ambassador initiative. As part of a package to improve STEM equity in Australia, the Ambassador is leading a \$1.5 million national digital awareness raising initiative, Future You, supported by the Australian Government.

In May 2021, the Australian Government announced additional funding to develop a Women in STEM Evaluation Toolkit (renamed as the STEM Equity Evaluation Portal) as part of the Women's Economic Security Package.

The Women in STEM Ambassador initiative is hosted at the University of New South Wales (UNSW).

## 2021 Purpose

To increase the participation of women in STEM in Australia by encouraging women to pursue STEM study and careers and working with the STEM sector to eliminate barriers to gender equity.

#### 2021 Vision

To lead action for gender equity in STEM, empowering girls to pursue STEM study and careers and advocate for systemic and cultural change across the sector to retain women in STEM and drive innovation.



Professor Harvey-Smith visiting Wembley Primary School

#### Two pillars drive the achievement of our purpose:



- Encouraging and empowering girls to pursue STEM studies and careers
- Supporting teachers and parents/carer to encourage girls' STEM interests
- Increasing awareness of the barriers to girls' participation in STEM in educatio
- Increasing the visibility of diverse women as STFM role models
- Raising awareness of the diverse and exciting career possibilities in STEM.

Six streams of work aim to attract women and girls to STEM and foster an environment that retains women in STEM and enables them to progress their careers. These are:



- Increasing awareness of the barriers to women's participation, retention and progression in STEM
- Engaging with stakeholders across the sector to drive action to address gender inequity
- Supporting the sector to address inequities which prevent organisations from retaining and progressing women in STEM fields
- Increasing the awareness of an intersectional lens when addressing the barriers faced in STEM
- Future You
- The Anonymised Review Study
- The National Evaluation Guide
- Grants by Gender
- Advisory role for government, industry and educators
- Communications & outreach



# YEARIN 2021 REVIEW 2021

# **Activities, Outcomes and Impacts**

We work to increase the participation of women in STEM studies and careers by engaging stakeholders across education, industry, state and federal governments and research.

Our work is aligned with the Australian Government's <u>Advancing Women in STEM Strategy</u> and the <u>Women in STEM Decadal Plan</u>.

We work at a national level to raise awareness of issues affecting women and girls' participation in STEM and drive cultural and systemic change to address barriers to gender equity. We achieve this by engaging with key stakeholders to support actions for women in STEM, raising awareness of opportunities available in STEM for women and girls, providing a visible role model for students, and influencing leaders and policy makers to promote decision-making that supports improved gender equity in STEM.

The Ambassador's first term focussed on building relationships with the STEM community, engaging with educators to communicate strategies to engage girls in STEM in the classroom, talking with parents and carers to encourage children's interest in STEM, and providing advice to industry leaders and policymakers on women in STEM.

In 2021, we continued to build our reputation as a national reference for matters of gender equity in STEM. We built relationships with Australian and international organisations across education, government and the private sector and mobilise these organisations to enact change within their spheres of influence.

# Women in STEM Ambassador Work Plan 2021 Outcomes

Evidence of outcomes/impacts	Annual Review and Evaluation     Reports published     And Mayor Enhant to Minister	See section: Public Engagement for detail on communications,	media and outreach activities				Plans successfully developed, demonstrated by delivery of delivery of delivery of delivery of delivery of delivery deliberates.	significant stakeholder and community engagement and outreach. See section: Advisory	work and strategic Engagements and Partnerships for detail of activities	<ul> <li>See section: Public Engagement for details of communication activities and media appearances</li> </ul>		
Progress toward target	Achieved						Achieved					
KPIs	Publish Annual Review 2020 and disseminate to key stakeholders.	Publish Women in STEM Ambassador initiative evaluation report 2019-2020.	Submission of 2021 Annual Work Plan in February based on Minister for Industry, Science and Technology Statement of Expectations.	Regular communications across social channels and the WISA website to communicate the work of the Office and key gender equity messages.	Proactively seek opportunities to share Australia's unique policy and institutional responses on gender equity in STEM with partners in international fora.	Proactively engage with mainstream media to promote the role of Women in STEM Ambassador, the case for gender equity in STEM and Australia's unique policy and institutional responses on gender equity in STEM.	Develop a stakeholder engagement plan to support the aims of the Ambassador.	Develop a plan for outreach and community engagement activities.	Development of communication strategy to reach audiences outside of the STEM community.	Implementation of stakeholder engagement plan with monthly reviews and assessment of communications, engagement levels and resonance with the target audience.	Implementation of outreach and community engagement plan with monthly reviews and assessment of communications, engagement levels and resonance with the target audience.	Create content aligned with key events (e.g. International Day of Women and Girls in Science, International Women's Day, NAIDOC Week, National Science Week) and to communicate the activities of the Office of the Women in STEM Ambassador.
no.	1: 2: 5: 4: 3:1 9: 1 9: 1 9: 1 9: 1 9: 1 9: 1 9: 1					9:	2.1	2.2	2.3	2, 4.	2.5	5.6
Outcomes	• Increased visibility of the Women in STEM Ambassador as an expert in	• Increased visibility of the Women in STEM Ambassador as a role model.	• Increased awareness of the Office of the Women in STEM Ambassador. • Increased awareness of the breadth and depth of the Office of the	Women in STEM Ambassador's activities.			Positively framed, actionfocused gender equity in STEM communications delivered to a broad audience.     Increased awareness of the Office of the Women in STEM Ambassador.     Increased awareness of an intersectional lens when addressing the barriers faced in STEM.  2.					
Activity	Communication activities to position the Ambassador as a	on women in STEM.					Communication activities to promote diversity in STEM	careers and key messages around gender equity in STEM, engaging a broad	range of traditional and new media.			
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ó Z	o. Activity	Outcomes	Б	KPIs	Progress toward target	Evidence of outcomes/impacts
			2.7	Support existing Government's Women in STEM initiatives by sharing content on social media platforms and co-creating content when requested (e.g. video content).		
			2.8	Ongoing implementation and monitoring of the communications strategy across online, social, print, radio and television media.		
			2.9	Communication activities focused on re-engaging girls and women who have left STEM pathways during COVID-19.		
			2.10	Increased media appearances through mainstream media outlets to promote the role of Women in STEM Ambassador, the case for gender equity in STEM and Australia's unique policy and institutional responses on gender equity in STEM.		
м	Implement anonymised review in research	Implementation of anonymised     review for an application process	3.1	Work with committed organisations to develop and implement trial for their application rounds.	On track	• See section: Research Projects, Annonymised Review for details.
	allocation application/	In research, SIEM organisations.  • Ongoing data collection adding to the evidence for this measure as a method to reduce bias in an Australian context.	3.2	Anonymised review study data collection (ongoing): Data collected for grant rounds by Astronomy Australia Limited, National Computational Infrastructure and CSIRO.		
4	Assist government-funded Women in STEM programs	• Implementation of the Evaluation Guide as a recommended	4.	Communications activities to support the launch of the final Evaluation Guide for Women in STEM programs.	On track	See section: Research Projects, the STEM Equity Evaluation Portal
	to investigate their reach and efficacy by implementing the Evaluation Guide and develop	resource for WISE grant recipients to enable government-funded Women in STEM programs to self-	4.2	Draft conceptual outline of the toolkit and stakeholder consultation.		for details.
	an Evaluation Portal to support program managers to conduct evaluations and	evaluate. • Development of a portal for 2022 launch to further support the	4, 8.	Support implementation of the Evaluation Guide with WISE grant recipients.		
	share data.	implementation of the guide in gender equity programs.	4. 4.	Deliver workshops to support implementation of the Evaluation Guide (minimum 3).		
			4. 7.	Stakeholder consultation completed — commence development of first version of the toolkit.		
			4.6	Research and development toolkit components and web hosting arrangement, engage Project Manager to oversee the project development, engage Web Developer [NEW].		
			4.7	Develop an Evaluation Toolkit for release in 2022 to support program managers to conduct evaluations and share data.		
			8.	Profile best-practice examples of stakeholders using the Evaluation Guide (minimum 4).		

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o Z	Activity	Outcomes	P on	KPIs	Progress toward target	Evidence of outcomes/impacts
ഹ	Implement the National Awareness Raising Initiative to promote STEM career pathways, reduce stereotypes and gender bias and increase the visibility of girls and	<ul> <li>Creation of an evidence-based, targeted digital initiative to raise awareness of STEM careers, increase the visibility of girls and women in STEM education and professions and address public</li> </ul>	5.1	Expand on successful elements of the pilot Future You campaign and transition to an on-going program with a continuous communications plan.  Partner with high-profile STEM organisations to create authentic content and expand the initiative's reach.	On track	• See section: Future You for details.
	women in STEM.	• Children see STEM careers. • Children see STEM jobs as exciting and attractive and parents and children perceive STEM careers to be for men and women equally.	5.3	Partner with industry and other leaders in areas of national significance, such as manufacturing, technology and resources to develop content that profiles and promotes areas of national skills need.		
		<ul> <li>Girls are encouraged and empowered to pursue STEM studies and careers</li> </ul>	5.4	Deliver ongoing evidence-based awareness raising digital content.		
		<ul> <li>Campaign leverages partnerships to develop content and expand reach.</li> </ul>	ਨ ਨ	Ongoing evaluation of impact including recommendations for the development and delivery of an initiative with sustained outcomes.		
9	Collaborate on activities and associated media campaigns	• Increased visibility of STEM role models and awareness of gender	6.1	Work with STEM organisations on activities for the International Day of Women and Girls in Science.	Achieved	See section: Public Engagement for details.
	around key dates/events.	equity messages among broader community	6.2	Amplify the voices of those with lived experience of facing multiple barriers to participation and/or have been historically underrepresented in STEM for key dates and throughout the year.		
			6.3	Seek collaboration opportunities for events/activities for National Science Week 2021 (August 2021).		
^	Communicate with educators, education providers and	Share the importance of STEM careers with young people across	7.1	Talk to teachers, educators and careers' advisors about gender equity at conferences and school visits.	Achieved	See section: Strategic     Engagements and Partnerships-
	students about gender equity in STEM education and to promote best practice	Australia and teachers and parents/carers are supported to encourage girls. STEM interests.	7.2	Engage education professionals and peak bodies to address gender equity in STEM.		influencing Education, and Public Engagement, for details.
	to reduce gender bias and stereotypes.	<ul> <li>Gurls are encouraged and empowered to pursue STEM studies and careers.</li> <li>Increased awareness of the barriers to girls' participation in</li> </ul>	7.3	Engage virtually or through visits with schools, colleges, universities, early childhood education centres, VET providers and cultural institutions across Australia to talk to the sector's education providers and students.		
		STEM in education. • Educators are empowered to implement best practice in their classrooms/activities.	4.	Highlight the increased barriers to participation and underrepresentation of diverse groups in STEM including Aboriginal and Torres Strait Islander women, those living with disability, residing in regional or remote locations, and those from culturally and linguistically diverse backgrounds.		

## Common to the face and the contract of the	o Z	Activity	Outcomes	А Б О	KPIs	Progress toward target	Evidence of outcomes/impacts
conference and articles.  Specifies and articles and articles and articles seed and the seed of the se	ω	Communicate the case for gender equity and the Women in STEM strategy	Raise awareness of Women in STEM issues among key audiences including teachers, industry and	6.3		Achieved	<ul> <li>See section: Public Engagement for details.</li> </ul>
Support awards committees  The difference and an extension of diverse grouns in STEM and evidence and stricts and and stress of participation and stress of participation and stressed and stress of participation and stressed applications.  Support the appropriate time.  Support t		across the sector - via conference keynotes, panels,	research organisations.  Increase the awareness of	ά	Support the promotion and implementation of key government- funded activities as evidence based interventions for the sector.		
Provide input and freedback on documents and Science in freedback on community on freedback on consultation from and inform on policy.  Support awards committees and singular threads and STEM community on many and inform on policy.  Support awards committees and singular threads and STEM organisations on additional control in STEM.  Support awards committees and singular threads and STEM organisations on additional control in STEM.  Support awards committees and singular threads and STEM organisations on additional control in STEM.  Support awards committees and singular threads and STEM organisations on additional control in STEM.  Support awards committees and singular threads and STEM organisations on additional and selection process and public campaigns to an additional and reactions and realizable in academic are women in STEM.  Participate in academic are academic are search collaborative and status and selection processes.  Participate in academic are academic and realizables in selection and expensions that study the gender factors and realizonships with signification and enablorative engagement.  Participate in academic and status and realizonships with significations from the activities of the Office of the Women in STEM and support their connections and realizonships with a search collections and realizonships with a search transpace in academic and diversity and diversity in search reports and support research transpaces to address these areas are active in the STEM gender equity in all calculating organisations to gender equity in all calculations of research funding.  Support expendence and support in academic and identify where our office can offer support.  Support expendence and support in academic and identify where our office can offer support.  Support expendence and support in academic and identify where our office can offer support.  Support expendence and support in academic and identify in a support in a support in academic and intensity in STEM.  Support expendence and its many and inte		speeches and articles.	an intersectional lens when addressing the barriers faced in STEM.	89.23	Profile the increased barriers to participation and underrepresentation of diverse groups in STEM and evidence based interventions to address these challenges. These groups include Aboriginal and Torres Strait Islander women, those living with disability, residing in regional or remote locations, and those from culturally and inguistically diverse backgrounds.		
Support awards committees  Support awards committees  The appropriate time.  The Office of the Women in STEM regarder factors with STEM countries to improve gender equity and diversity of improve gender equity and diversity in STEM.  Work with national research from the stem of the with a studying and diversity of improve gender equity and diversity in STEM.  Support awards committees  The Office of the Women in STEM research problem to a study the gender factors within STEM counterons and real-orative and diversity and improve gender equity and diversity and improve gender equity and diversity in STEM.  The Office of the Women in STEM research funding or ganisations to improve gender equity and diversity and improve gender equity and diversity in STEM.  The Office of the Women in STEM research funding or ganisations to improve gender equity and diversity and improve gender equity.  The Office of the Women in STEM research funding or ganisations to dentify and improve gender equity and diversity and improve gender equity and diversity and improve gender equity and diversity to improve gender equity.  The Office of the Women in STEM and support there appropriate in academy and diversity and improve gender equity and diversity and improve gender equity and diversity on improve gender equity.  The Office of the Women in STEM and support research funding or ganisations to dentify and improve gender equity. The Office of the Women in STEM and support the search funding or ganisations to dentify and improve gender equity. The office of the Women in STEM and support in the STEM gender equity and diversity and improve gender equity. The search funding or ganisations of research funding or ganisations of the Women in STEM and support the search funding or ganisatio	<b>o</b>	Provide input and feedback on documents for consultation from	<ul> <li>Advise STEM community on actions to improve gender equity and inform on policy.</li> </ul>	9.1	<u> </u>	Achieved	
Support awards committees  Support awards committees  Support awards committees  The Oblic campaigns to encourage brize norminations and recipients who encourage prize norminations are women in STEM.  The Oblic of the Women in STEM and support their research folloaborations that enclased maintains research collaborations and elaborative search proport and diversity and diversity  Work with national research  The Oblic of the Women in STEM and support their connections and relationships with strong equity and diversity  The Office of the Women in STEM and support their norminations are search folloatorative engagement.  Work with national research  The Office of the Women in STEM and support their norminations are search poportunities e.g. published papers; research reports.  Work with national research  The Office of the Women in STEM and support their norminations and relationships with a search reports.  Work with national research or opportunities to improve gender equity and diversity in STEM in STEM and implement measures to incling or of research funding.  The Office of the Women in STEM and support their search proportunities to improve endage parts are appropriated to the Work and implement measures are allocation of research funding.  The Office of the Women in STEM and STEM and STEM and STEM gender equity and diversity and diversity in STEM.  The Office of the Women in STEM and STEM and STEM and STEM gender equity and diversity and diversity and diversity and diversity and diversity and diversity and implement measures are allocation of research funding.  The Office of the Women in STEM and Ausindustry to keep up to didentify where our office can offer support.  The Office of the Women in STEM and Ausindustry to keep up to didentify and implement measures.  The Office of the Women in STEM and Ausindustry to keep up to didentify with activities and identify where our offer support.		government departments and STEM organisations as requested.		9.5	Provide feedback on discussion papers, guidelines and other documents as required.		
Support awards committees in mominations and recipients who are women in STEM appropriate time.  The Office of the Women in STEM and support their such of the declaration of papers.  The Office of the Women in STEM and support their connections and relationships with autoinal research opportunities to improve gender equity and diversity in STEM.  STEM and obtained the selection process and recipients who are active in the STEM and support their norminations for awards.  The Office of the Women in STEM and support their norminations and relationships with accounties to identify and implement measures gender equity and diversity in STEM.  STEM and support their norminations and relationships with accounties to identify and implement measures gender equity and diversity in STEM.  STEM and support their norminations of the Women in STEM and support their norminations and relationships with accounties to identify and implement measures gender equity and diversity in STEM.  Support research funding organisations to documents, reports, etc.  The Office of the Women in STEM and other equity and diversity in STEM and support their norminations and relationships with accounties to improve gender equity and diversity.  Support research funding organisations to documents, reports, etc.  The Office of the Women in STEM and other equested on consultation of evidence-based improvement and encourage implementation of evidence-based documents, reports, etc.  Support research funding organisations to documents, reports, etc.  The Office of the Women in STEM and other requested on consultation of evidence-based documents, reports, etc.				9.3	Advise government departments and STEM organisations on activities focused on re-engaging girls and women who have left STEM pathways during COVID-19.		
are women in STEM.  The appropriate time.  Participate in academic research collaborations and recipients within STEM education and equitorial pagement.  Work with national research opportunities to improve gender equity in STEM.  The appropriate time.  10.4 Raise awareness of bias in selection processes.  10.5 Raise awareness of bias in selection processes.  10.6 Raise awareness of bias in selection processes.  10.7 Raise awareness of bias in selection processes.  10.8 Raise awareness of bias in selection processes.  10.9 Raise awareness of bias in selection processes.  10.10 Raise awareness of bias in selection processes.  10.2 Raise awareness of bias in selection processes.  10.3 Raise awareness of bias in selection processes.  10.4 Celebrate successful women in STEM and support there appropriate where appropriate connections and relationships with experiment in STEM and support tresearch funding organisations to improve gender equity in allocation of research funding organisations to improve gender equity in allocation of research funding.  12.2 Provide advice and feedback where requested on consultation and in STEM.  12.3 Meet with ARC. NHMRC and Ausindustry to keep up to date with ARC. NHMRC and dusting viganisations to additional research funding.	0	Support awards committees	• Increased applications/	10.1		Achieved	• See section: Advisory work for
Participate in academic research collaborations that study the gender factors with national research opportunities to improve gender equity and diversity and stream of the stream of th		and public campaigns to encourage prize nominations at the appropriate time.	nominations and recipients who are women in STEM.	10.2	Advise Prize Organisers on strategies to make selection process more equitable.		detalls.
Participate in academic research collaborations that separch collaborations that separch collaborations that separch collaboration ship separement.  The Office of the Women in STEM 11.1 Pursue research publications from the activities of the Office of the Women in STEM and supports a connections and relationships with national research opportunities e.g. published papers, research reports.  Work with national research opportunities to inentity of for funding organisations to opportunities to inentity and implement measures gender equity and diversity in STEM.  12.1 Support research funding organisations to identify area for funding organisations to inentity and implement measures gender equity in allocation of research funding.  12.2 Provide advice and feedback where requested on consultation in STEM.  12.3 Meet with ARC, NHMRC and Ausindustry to keep up to date with activities and identify where our office can offer support.				10.3	Raise awareness of bias in selection processes.		
Participate in academic research collaborations that study the gender factors such collaborations that study the gender factors supports and relationships with national research opportunities e.g. work with national research reports, research funding councils to identify and diversity in STEM.  The Office of the Women in STEM Ambassador to present work at relevant conferences.  Collaborate with research publications from the activities of the Office of the Women in STEM Ambassador to present work at relevant conferences.  Collaborate with research projects.  Unique research publications from the activities of the Office of the Women in STEM Ambassador to present work at relevant conferences.  Collaborate with research projects.  Support research projects.  Collaborate with research projects.  Collaborate with research projects.  Support research funding organisations to identify areas for improve gender equity in in STEM.  12.1 Support research funding.  Collaborate with research funding organisations to identify areas for improve gender equity in in STEM.  12.2 Meet with ARC, NHMRC and Ausindustry to keep up to date with activities and identify where our office can offer support.				10.4	Celebrate successful women in STEM and support their nominations for awards.		
sudy the gender factors with STEM education and engagement.  • Participate in collaborative engagement engagement.  • Participate in collaborative engagement engagement engagement engagement engagement engagement measures in provide advice and search funding organisations to identify and implement measures gender equity in in STEM.  • Provide advice and support research funding organisations to identify areas for improve gender equity in allocation of research funding.  • Participate in collaborate with a collaborate with a collaborate engagement measures in provide advice and feedback where requested on consultation documents, reports, etc.  • Participate research funding organisations to improve engagement measures in provide advice and feedback where requested on consultation documents, reports, etc.  • Participate research funding organisations to identify areas for improve gender equity in allocation of research funding.  • Participate research funding organisations to identify areas for improvement measures in provide advice and feedback where requested on consultation of evidence-based conformation of evidence-based conformation of evidence-based conformation of evidence-based conform	Ε	Participate in academic research collaborations that	The Office of the Women in STEM     Ambassador maintains research	11.		On track	<ul> <li>See section: Research Projects and Public Engagement for details.</li> </ul>
Work with national research projects.  Work with national research pepers, research reports.  Work with national research published papers, research reports.  Work with national research published papers, research reports.  Work with national research published papers, research reports.  Work with national research projects.  Provide advice and support improve gender equity and diversity and diversity and diversity in STEM.  12.1 Support research funding organisations to identify areas for improve gender equity in allocation of research funding.  12.2 Provide advice and feedback where requested on consultation documents, reports, etc.  12.3 Meet with ARC, NHMRC and Auslndustry to keep up to date with activities and identify where our office can offer support.		study the gender lactors within STEM education and engagement.	connections and relationships with experts.  • Participate in collaborative	11.2	Office of the Women in STEM Ambassador to present work at relevant conferences.		
Work with national research funding organisations to identify areas for funding organisations to identify and implement measures gender equity and diversity in STEM.  12.1 Support research funding organisations to improvement and encourage implementation of evidence-based changes to address these areas.  12.2 Provide advice and feedback where requested on consultation allocation of research funding.  12.2 Provide advice and feedback where requested on consultation documents, reports, etc.  12.3 Meet with ARC, NHMRC and Auslndustry to keep up to date with activities and identify where our office can offer support.			research opportunities e.g. published papers, research reports.	11.3	Collaborate with researchers who are active in the STEM gender equity research space on new research projects.		
allocation of research funding. 12.2	2	Work with national research funding councils to identify opportunities to improve	Provide advice and support for funding organisations to identify and implement measures     to improve conductivity in	12.1	Support research funding organisations to identify areas for improvement and encourage implementation of evidence-based changes to address these areas.	Achieved	<ul> <li>See section: Research Projects, and Advisory work, for details.</li> </ul>
		gender equity and diversity in STEM.	allocation of research funding.	12.2	Provide advice and feedback where requested on consultation documents, reports, etc.		
				12.3	Meet with ARC, NHMRC and AusIndustry to keep up to date with activities and identify where our office can offer support.		

Ž	No. Activity	Outcomes	No.	KPIs	Progress toward target	Evidence of outcomes/impacts
13	Support SAGE and Champions of Change Coalition (CCC) with their	<ul> <li>Broad communication of SAGE and CCC work for gender equity in STEM.</li> </ul>	13.1	Support and share the activities and research outputs of SAGE and CCC as needed.	Achieved	<ul> <li>See section: Advisory work and Strategic Engagements and Partnerships for details.</li> </ul>
	Promote their work and publications broadly.	1	13.2	Meet regularly with leaders of SAGE and CCC STEM to discuss opportunities and provide advice when requested.		
7		f the Decadal Plan s, media, etc. as	14.1	Continued promotion of the Decadal Plan widely through speeches, media, and other activities.	Achieved	See section: Public Engagement,     Advisory work, and Strategic     Consequence of the section of the sec
	Implementation.	demy	14.2	Use the Decadal Plan to inform the activities of the Office of the Women in STEM Ambassador.		Engagements and Partnersnips for details.
		implementation as needed.	14.3	Encourage stakeholders to implement relevant Decadal Plan recommendations. Provide advice to Decadal Plan Champions if requested.		
र्घ	Promote diversity of speakers at conferences and events.	e importance vents and of women in	15.1	The Women in STEM Ambassador participates in diverse panels and encourages event organisers to achieve diversity among panellists and speakers.	Achieved	<ul> <li>See section: Advisory work and Public Engagement for details.</li> </ul>
		STEIN UTOUGH EVERIES.	15.2	Promote existing high-quality resources for event organisers to achieve diversity.		
91	Support existing women in STEM initiatives including the STEM Women website,	of women in and support ote STEM	16.1	Promote the STEM Women database and Girls in STEM Toolkit as appropriate through keynote speeches and other communication channels e.g. social media.	Achieved	• See section: Public Engagement for details.
	TH'S Superstars of STEM.	careers to women.	16.2	Provide support to the Superstars of STEM as a mentor and notify the Superstars of media opportunities as appropriate.		
			16.3	Collaborate to ensure the Office of the Women in STEM Ambassador's work aligns with existing initiatives.		



# FUTURE YOU

the Materials Engineer and Pathma the Product Development Scientist.

Future You was launched in 2020 as a digital initiative to inspire girls to see their future selves in a range of jobs using STEM skills. The online platform is aimed at children aged 8 to 12, as well as their teachers, parents and carers. The campaign includes a website with video animations, skill-based games and information about STEM. Future You features 12 diverse aspirational characters:

- Pathma the Product Development Scientist
- Molly the Materials Engineer
- Mirra the Australian Space Agency Moon to Mars Mission Director
- Ethan the Ecologist
- Mei the Miner
- Riley the Renewable Energy Engineer
- Frankie the Farmer
- Grace the Game Designer
- Faiz the Food Technologist
- Blake the Builder
- Cooper the Computer Programmer
- Ruby the Robotics Technician
- Noah the Nurse
- Scarlett the Sports Scientist

In 2021, we added two new characters to the existing 12 on the Future You website. The Create Your Future You competition ran from March

to April 2021, with children across Australia submitting drawings of their future selves in a STEM job. The winning entries were developed into two animated characters: Molly the Materials Engineer and Pathma the Product Development Scientist. The new characters were revealed by Australia's Chief Scientist, Dr Cathy Foley, in an event at Questacon in Canberra on 2 June 2021. Seven schools connected virtually into the event, where they presented community problems they are solving with STEM and asked questions to women in STEM professionals. The event was moderated by Professor Lisa Harvey-Smith.

Since its launch in October 2020, the Future You campaign has reached an audience of 3.1 million to date, including children aged 8 to 12 years and their teachers, parents and carers, as at 31 December 2021.

From January to December of 2021, the Future You microsite received a total of 190,989 page views, 740,196 interactions and 153,448 unique visitors. On KidSafe Social video, the campaign delivered 880,622 video views. Overall, we had 138,011 unique visits, with the games being played over 24,975 times and the quiz 3,016.

# RESEARCH PROJECTS

#### **Anonymised Review**

Isabelle Kingsley, Research Associate, is leading a <u>national Australian trial</u> to study the effects of anonymising grant applications for in-demand scientific equipment with key national research organisations. The results will provide a strong evidence base to inform government and the STEM sector on equitable processes.

Four large Australian research organisations and funding bodies are taking part in the national trial: Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia's Nuclear Science and Technology Organisation (ANSTO), National Computational Infrastructure (NCI), and Astronomy Australia Limited (AAL).

Since March 2020, we have worked closely with all four organisations to facilitate and make significant structural changes to their resource allocation schemes. These four organisations made changes to their procedures, systems, and application portals in order to integrate and commit to implementing anonymous review practices.

The project is ongoing, with data collection ending in May 2022. The research team will conduct an analysis and produce a publication, with the aim to submit to an academic journal by the end of 2022. The study is a key action in the Australian Government's Advancing Women in STEM strategy and 2020 Action Plan.



Isabelle Kingsley, Research Associate









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# **Analysis of Awarded Australian Grants by Gender**

We are currently conducting a study examining trends over time in the award of research grants in Australia by the Australian Research Council (ARC) and the National Health and Medical Research Council (NHMRC) according to awardee gender. The analysis will also account for other factors such as academic level, field of research, scheme, funding amount and prestige of administering organisation.

Throughout this process, we are consulting the ARC and the NHMRC to discuss how this research project will guide future recommendations and actions by the ARC, NHMRC and other funders to take action on more equitable processes.

We aim to submit to an academic journal by the end of 2022. We will also disseminate the findings in reports and recommendation documents for Australian research agencies. As a unique longitudinal study, the results of this research will provide a strong evidence base to inform government initiatives to support the Advancing Women in STEM Strategy and 2020 Action Plan.

# EVALUATION





#### **National Evaluation Guide**

We published the National Evaluation Guide for STEM Gender Equity Programs (the Guide) in December 2020. The Guide provides practical tools for individuals and organisations leading STEM gender equity programs to conduct meaningful program evaluations and share them with the broader community. This year the Guide was used to evaluate STEM equity programs such as the Australian Academy of Science's <u>STEM Women Database</u> and Education Services Australia's <u>Girls in STEM Toolkit</u>.

# The STEM Equity Evaluation Portal

In July 2021, we received funding from the Commonwealth Department of Industry, Science, Energy and Resources (DISER) to develop an online evaluation tool and repository for STEM equity programs. The STEM Equity Evaluation Portal (the Portal) will function as an extension and complement to the Guide. As a planning and reporting tool, it will contain standardised and interdependent elements that users can 'click & select' to build an evaluation plan and report on findings. It will also include a bank of recommended tools (surveys, tests and other instruments) to choose from for their evaluations. As a repository, it will function as a database of existing STEM equity programs and their efficacy.

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The Portal (and the associated Guide) is designed to:

- Enable project-level evaluation and demonstrate what works to attract, retain and progress girls and women in STEM
- Support a culture of evidence-based practice by enabling activities to be improved based on evaluation data
- Create consistency and comparability of evaluation data
- Publish and collate evaluation data in a national repository to (1) improve awareness of existing programs and their efficacy, (2) identify and/or address any gaps, and (3) inform decision making about what works and what should be scaled up and/or funded across sectors
- Support and incentivise collaboration between providers of programs within and across sectors to create stronger cohesion and consolidate efforts and resource

In October 2021, we conducted broad stakeholder and public consultation via an online survey. Respondents indicated that the Portal and its features would be a helpful resource that would streamline evaluation, contribute to collective insights and allow comparisons between findings. Respondents highlighted the need to reduce reporting burden and encourage broad uptake through mandate. With this work, we are leading the delivery of a key recommendation of the Women in STEM Decadal Plan. The Portal will be completed and launched in October 2022.

## **Advisory Work**

The Ambassador is a trusted advisor on the systemic changes required to address gender inequity in STEM. In addition to advising existing stakeholders, in 2021 the Ambassador focussed on building and strengthening relationships within and across government, peak body organisations, and industry groups. Prof Harvey-Smith dedicated 93 hours of presentations and meetings to her advocacy and advisory work over the course of the year.

#### **Advice to Government**

In 2021, the Ambassador provided advice to the Commonwealth Government, meeting with then Ministers for Industry, Science and Technology, Ministers Andrews and Porter, and working closely with the Office of the Chief Scientist to outline options for future Government investments for women in STEM.

The Ambassador provided expert advice for Australian Government programs supporting women in STEM, including the Boosting the Next Generation of Women in STEM program and the Women in STEM and Entrepreneurship (WISE) grants program. The Ambassador served as Chair of the WISE committee for grant round 3, providing expertise to the program delegate on the grant applications to receive funding. She also served as a member of the expert committee to recommend a delivery partner for the Australian Government's Boosting the Next Generation of Women in STEM program. The Office also supported the design of evaluation guidelines for the 2021 WISE grant round 3 to ensure projects have embedded evaluation into their plans, and gave suggestions on the emphasis of future WISE grant guidelines, as well as promoting applications for the grants.



The Ambassador advised on diverse workforce development across industries which are key priority areas for Australia. This included building important relationships with members of the Defence STEM Council, which received the Ambassador's expertise on current and future initiatives to improve diversity in science and technology careers in defence. Moreover, Professor Harvey-Smith presented ideas on attraction strategies of underrepresented groups to areas of national and local skills shortages at the Queensland Government Stakeholder Roundtable on 'Harnessing underutilised cohorts' hosted by the Honourable Leeanne Enoch MP and the Honourable Di Farmer MP. The Ambassador's expertise was also sought in a roundtable

discussion on Education and Training Services to inform the development of the National Roadmap for Indigenous Skills, Jobs and Wealth Creation hosted by the National Indigenous Australians Agency. The outcomes of this discussion will inform the development of the National Roadmap. Professor Harvey-Smith also provided feedback to the National Skills Commission to inform the Skills Priority List.



# **Advice to Peak Bodies and Research Organisations**

The Ambassador continued to serve as a member of the Questacon Advisory Group and the Australian Space Agency Advisory Board, bringing to the table issues relevant to the creation of a vibrant and equitable STEM workforce and of inspiring the next generation of STEM talent. The Ambassador also remained an active member of the Engineering for Australia Taskforce, working with a consortium made up of Engineers Australia, Cicada Innovations, the Australian Academy of Technology and Engineering and universities to identify opportunities to 'put the E back in STEM'. The taskforce recommends actions based on the potential to influence the choices of young people to study engineering. Outcomes so far have included a research report called 'Barriers to Participation in Engineering and the value of Interventions to improve Diversity'. Current activities include the development of resources for educators to inform them about the huge range of opportunities in engineering careers, and the importance of promoting these careers to young women.

We engaged in consultation with research organisations including the Australian Research

Council and the National Health and Medical Research Council, and others including those involved in our research projects. In addition to advice provided that is connected to that work, the Ambassador was invited to provide input regarding the NHMRC publications in track record assessment, with the aim to improve the processes by which grant funding is awarded resulting in more gender equitable outcomes.

Professor Harvey-Smith meets regularly with an influential group of gender equity leaders in Australia including the Australian Ambassador for Gender Equality, the e-Safety Commissioner, the Australian Sex Discrimination Commissioner, and leaders from the Office for Women, ANROWS, and Our Watch. Outcomes include national policy recommendations for cultural and social change measures, which will improve women's safety and economic security. The Ambassador was involved in the Science in Australia Gender Equity (SAGE) Key Leaders Roundtable on Sexual Harassment on the 25th of February, where she provided input to incorporate learning from the Respect@Work inquiry into the workplace sexual harassment SAGE initiative.

# STRATEGIC ENGAGEMENTS AND PARTNERSHIPS

# **Influencing Education**

The Ambassador's advisory work with policy makers and leaders in education continued in 2021. We built relationships with the Department of Education, Skills and Employment (DESE) – this began with an invitation for the Ambassador to meet with the Improving Student Outcomes Division to present analyses of gaps and opportunities within the education system to remove barriers to the participation of girls in STEM. As a result, it was agreed that the Office will provide ongoing support to policy initiatives to improve STEM education in 2022.

We provided expert input on the National Curriculum Review, education policy documents for bodies such as the Australian Science Teachers' Association, and resources for small businesses for the Australian Academy of Technology and Engineering. In particular, the Ambassador's input helped to shape three ASTA policy position papers on resourcing, building teacher capacity, and workplace health and safety. Our unique expertise in evidence-based gender equity measures will create better outcomes for students, STEM educators and employees in small businesses.

We continued to build on strong relationships forged with others working in the educational outreach space including Questacon and the Australian Space Agency. We worked collaboratively with Questacon on the Future You 2 You event and to mark the International Day of Girls and Women in Science, and have begun to explore plans for collaborative educational events with both organisations to be held in 2022.



Left to right: Anita Beck (Questacon), Dr Cathy Foley (Australia's Chief Scientist), Lauren Sullivan (former Future You Project Co-Ordinator) and Sarah Simmonds (Questacon).



Schools showcase their STEM projects at Future You 2 You.



Left to right: Christine McLoughlin AM (G20 Empower), Professor Lisa Harvey-Smith (Australian Government Women in STEM Ambassador).



Starting at top left, clockwise: the Australian Ambassador to the Republic of Korea, Catherine Raper; Professor Lisa Harvey-Smith; Adam Coin; the President of the Korea Center for Women in Science, Engineering and Technology (WISET) Dr. Ahn Hyy Yeon; Dr Lee Myung Sun, Director of the Ewha Institute for Leadership Development; and Jade Buieva.



Starting at top left, clockwise: Isabelle Kingsley; Professor Lisa Harvey-Smith; His Excellency Abdulla Al Subousi, Ambassador Extraordinary and Plenipotentiary of the United Arab Emirates to Australia; and Majid Al Nekhailawi.

# Partnering to Improve Workplace Culture

The Ambassador fostered relationships with key stakeholders who will be mobilised to enact systemic changes that are required to improve workplace culture. Chief Executive Women (CEW) is a membership organisation for women leaders of Australia's largest private and public organisations. Professor Harvey-Smith joined G20 EMPOWER representative Christine McLoughlin in a series of Roundtables with CEW members focussed on advancing women in private sector STEM leadership, learning from what works (and what challenges remain) in Australian STEM organisations and with a call to action for these leaders to influence change in their own space. The outcomes of the roundtables will be used to inform the Smoothing STEM Pathways project in 2022 and the participants will be engaged further next year in practical workplace equity programs.

#### **International Reach**

The Ambassador's international reach expanded in 2021, showcasing the Australian Government's Women in STEM commitments and fostering international collaboration opportunities with the Ambassador of the United Arab Emirates to Australia, the United States embassy in Australia, and Australian embassies in Japan and South Korea. On the 29th of June the Ambassador attended the 'Executive Roundtable Accelerating Women's Advancement in STEM: Emerging Lessons on Network Strategies and Approaches' report launch by the Asia Foundation, a not-forprofit international development organization committed to economic development across Asia. Following the launch, the Ambassador advised global participants on systemic change measures that would improve women's participation in STEM.



#### Outreach

In 2021, the Ambassador actively engaged with the community, providing actionable, evidence-based advice and inspiring Australians to act on equity measures. She communicated these messages through 45 hours of outreach and engagements across Australia, communicating with 73,244 people including students, teachers and educators, policymakers, STEM research organisations and industry representatives. The Ambassador's public engagements included close to 100 conference talks, panels, media appearances and articles that make the case for gender equity in STEM.

The Ambassador raised awareness of measures to improve women's inclusion in the field of cyber security in a recorded message for Safer Internet Day on the 9th of February, an initiative of the Australian Government's e-Safety Commissioner. She also encouraged nominations of women for the Prime Minister's Prizes for Science in promotional activities.

The Ambassador raised awareness of the multiple identity characteristics that create additional barriers for underrepresented groups to large audiences in Australia and internationally. She advised on measures that consider intersectionality in keynote presentations in online events on celebratory days such as Wear it Purple Day (27th August) and LGBTQI+ in STEMM day (18th November). The intersectionality message was also conveyed to an audience of academics across the Asia-Pacific as the Ambassador facilitated the launch of the Australian Academy of Science's report *The impact of COVID-19 on women in STEM: Asia-Pacific* on the 13th of July.

Other events of international reach included International perspectives: The diverse journeys of women in STEM, in which the Ambassador cohosted a panel with the Australian Ambassador for Gender Equality, Julie-Ann Guivarra, on the 7th of September. The Ambassador made unique contributions to a Women in STEM webinar (11th of

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May) hosted by the Australian embassy in Korea, detailing Australian initiatives advancing equity in STEM with a view to inform future collaborations with Korea.

As the keynote speaker at educator conferences, such as the Queensland Department of Education's STEM Teachers Symposium (23rd of September) and the Department of Education Tasmania's *Driving Future Innovation* STEM Conference (26th of February), the Ambassador made the case for greater focus on inclusive STEM classrooms. She was also consulted in preparation for the annual national conference held by the Science Educator's Association of the ACT – CONASTA69.

Engagement with primary and secondary school students continued virtually in 2021, with the Ambassador visiting classrooms across Australia through video content available on the DART Learning platform. She addressed students at live virtual events including keynote presentations for the National Youth Science Forum Year 12 Program on the 20th of January; an inspiring presentation on STEM careers at the Women in STEM day on the 19th of November for Science Alive! hosted by South Australia's Chief Scientist Professor Caroline McMillen; and Stories that Matter for Kids as part of Australian Reading Hour, hosted by the Sydney Opera House on the 14th of September, reaching an audience of 68,909 nationally.





Professor Lisa Harvey-Smith at the women in STEM "Science Alive!" event in Adelaide.



Professor Lisa Harvey-Smith in a video promoting the Prime Minister's Prizes for Science.



The Australian Academy of Science webinar for the Impact of COVID-19 on women in the STEM workforce Asia-Pacific launch.



- It's clear in all the comments we received that the students were truly inspired by your journey through STEM.
- Professor Lisa Harvey-Smith was an amazing speaker and is now my role model. She is who I aspire to be. A wonderful person and I'm excited to access the recording again.
- from Professor Lisa Harvey-Smith. Her story and what she stands for is amazing. It was also great to see how encouraging she is towards everyone, but especially girls pursuing a career in STEM.
- I loved the Lisa Harvey-Smith lecture. It affirmed that I want to pursue a career in astrophysics.

To provide practical support to program owners across Australia to evaluate their programs, and promote evaluation as a priority action that will remove barriers to girls' and women's inclusion in STEM, we delivered two evaluation webinars in 2021 (13th of July and 24th of August). The first webinar was targeted at the Round 3 WISE grantees and the second was open to anyone running an equity program. Isabelle Kingsley, Research Associate and author of the National Evaluation Guide, helped raise program owners' confidence to evaluate their equity programs as per the event evaluation. Before the webinar, attendees' perceptions of evaluation were 99.8% negative, and this shifted to 84.5% of attendees perceiving evaluation as positive, with participants using words like 'essential', 'important' and 'clearer'.

The Ambassador continued her support of the Superstars of STEM program in 2021 and served as a mentor, providing practical advice and support as she has every year since its inception.



Left to right: Professor Lisa Harvey-Smith and Isabelle Kingsley in a webinar to the public about evaluation.

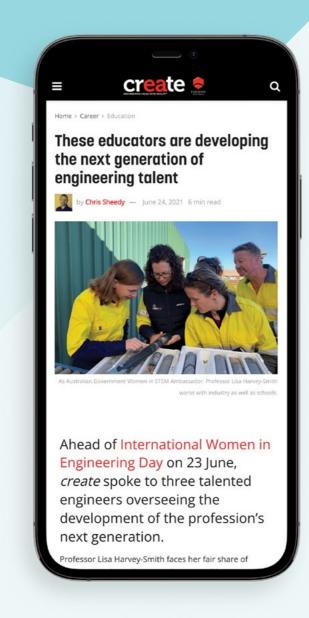
# MEDIA

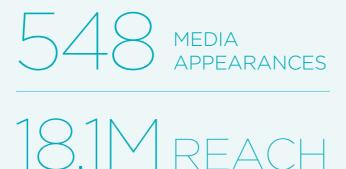
Media coverage of the Women in STEM Ambassador was predominantly on radio, online and TV, with mainstream media as the leading source of coverage, including ABC, News Corp and Nine Publishing.

In 2021 media activity totalled 548 media appearances or mentions reaching a collective 18.1 million people and consistent 92% favourability (with the remaining 8% being neutral).

Key coverage in 2021 about building a STEM pipeline for Australia included interviews with the Ambassador in *The Australian*, an opinion piece in the *Australian Financial Review*, and a lengthy feature in the *Australian Women's Weekly*. In this feature Professor Harvey-Smith shared her personal career journey, outlined why more women should be involved in STEM, and explained how she is working towards this in her role as the Ambassador. Coverage in the *Australian Women's Weekly* has enabled the Ambassador's messages to reach a potential audience of 3.2 million people including parents, carers and grandparents who are key influencers of children and part of our target demographic.

On the 20th of August the Ambassador was named in *The Australian*'s annual glossy magazine lift-out *The List Top 100 Innovators*, and featured in the 'Innovative Thinking' section, a double-page spread discussing the issues surrounding the advancement of women in STEM education and the workforce. The magazine identified Professor Harvey-Smith as one of the future-focused leaders set to make Australia the world's leading innovation nation.





92% favourability



The article strongly communicated the focus of our work, and quoted the Ambassador as saying: "I see this as a nation-building project. I wish we would stop framing this as a women's issue because it doesn't just help women, it helps men, too. It's about making things better for everyone."

Professor Harvey-Smith was also featured in national media outlets promoting days and celebrations of significance to STEM throughout 2021. Key among these were International Day of Women and Girls in Science (11th of February), on which she was interviewed for the SBS 6pm News Bulletin, ABC News Breakfast and ABC Radio Sydney Drive; International Women's Day (8th of March), when she was featured in The Australian; International Women in Engineering Day (23rd of June) with a feature in Create magazine; and National Science Week (14th to 22nd August), for which she was interviewed by ABC News Breakfast, Radio 6PR and Radio ABC in Perth, and Radio ABC Hobart.

The Ambassador was a regular guest on *ABC News*Radio and Television, informing audiences about

a range of issues confronting girls and women in STEM while also highlighting positive initiatives. The Office also secured media coverage for WISE grant recipients, who appeared in local media across Australia with articles appearing in *The Canberra Weekly*, the *South Coast Register*, and other local outlets. Messaging highlighted the importance of supporting underrepresented groups, such as Indigenous women and girls, in accessing STEM, as well as consistent evaluation of initiatives.

The Future You competition, which received submissions from children aged 8–12 between March and April 2021, was covered in media in *The Adelaide Advertiser, Kidsnews.com.au, Casey Cardinia Kids* and *The Mercury*. The competition winners were announced in the Future You 2 You event, which took place on the 2nd of June 2021. The event also featured schools across Australia presenting their STEM projects. Following the event, local media covered schools' projects in *The Glenorchy Gazette*, *Cranbourne News*, *Adelaide Advertiser*, *Courier Mail*, *St George and Sutherland Shire Leader* and *Bundaberg Today*.

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# SOCIAL MEDIA

In 2021, our social media channels had a combined following of 11,453. There was a 1–2% increase in social media followers after media coverage on dates of national significance such as National Science Week and International Women's Day, and events, such as Future You 2 You, indicating support for the Ambassador role and continued interest in the Ambassador's activities following engagement with the Office. Our social channels are an important avenue to communicate the work of the Office to our stakeholders in the STEM sector.

The significance of the Women in STEM Ambassador initiative in supporting women in STEM was recognised by the Minister for Foreign Affairs and Minister for Women, Senator the Hon Marise Payne, in her address to the G20 Conference on Women's Empowerment in Italy in August 2021.





39,853 IMPRESSIONS



Lisa Harvey-Smith & the Office of Women in STEM Ambassador channels combined followers:



28,954



9,130



3,820



3,019

# OUR PEOPLE













Left to right: Professor Lisa Harvey-Smith, Clara Gomes, Dan Prichard, Associate Professor Lisa A. Williams, Isabelle Kingsley, Jaqui Pyke.

The team includes the Australian Government Women in STEM Ambassador, Chief Investigator, Program Coordinator, Research Associate, Digital Content and Research Officer and Senior Administrative Officer. These roles equip the Office with a diversity of expertise to enhance our capability to conduct gender equity research, communicate our messages to a broad audience and allow us to expand our impact.

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# WHO WE WORK WITH

We have developed relationships with stakeholders across education, industry, research and government to:

- Identify and support existing gender equity activities
- Coordinate and collaborate on initiatives
- Communicate the case for change

Below are a few of the key stakeholders we collaborated and communicated with in 2021.

#### Government

AusIndustry, Department of Industry, Science, Energy and Resources, Questacon, DFAT, ANSTO, CSIRO, DESE, QLD Department of Small Business and Training, National Indigenous Australians Agency, Australian Space Agency, NSW Department of Education, Victorian Government, Office for Women, Australian Ambassador for Gender Equality, Australia's Chief Scientist, The Australian Bureau of Statistics, The eSafety Commissioner, Queensland Government, QLD Department of Education, Defence STEM Council, Department of Education Tasmania

#### Peak body

Academy of Science, Australian Academy of Technology and Engineering, Science in Australia Gender Equity, Workplace Gender Equality Agency, Engineers Australia, Science and Technology Australia

#### Education/ Research

University of New South Wales, Western Sydney University, Monash University, ANU, Macquarie University, University of Wollongong, Australian Science Teacher's Association, Science Educators' Association of the Australian Capital Territory, Australian Research Council, National Health and Medical Research Council, National Youth Science Forum

#### International

The Asia Foundation, the Ambassador of the United Arab Emirates to Australia, the United States embassy in Australia, and Australian embassies in Japan and South Korea

#### Media

ABC TV, ABC News Breakfast, ABC Radio, NITV, SBS, Australian Women's Weekly, The Australian, Australian Financial Review, Refraction Media, STEMPunk Magazine, The Adelaide Advertiser, KidsNews, Kids Magazines-Star News Group, The Mercury, Women in Security Magazine, Casey-Cardinia Kids, Smart Company, Glenorchy Gazette, Cranbourne News, Courier Mail, St George & Sutherland Shire Leader, Bundaberg Today, Create Magazine, South Coast Register, Third Sector, The Canberra Weekly, Women's Agenda, Food & Drink Business, The STEM Wrap

#### Other

Tradeswomen Australia, Chief Executive Women, Australian Human Rights Commission, Our Watch, ANROWS, STEM Punks, Sydney Botanic Gardens, parents, carers, students, women in STEM professionals

# ANNUAL BUDGET

The Women in STEM Ambassador initiative is funded through a Commonwealth Grant Agreement, which provides \$1.845 million in funding over two years.

The breakdown of the agreed project cost and expenditure as at December 2021 is shown below:

	AGREED PROJECT COST (\$)	2021 EXPENDITURE (\$)		
Contract expenditure	390,000	63,270		
Delivery of work program	193,284	44,984		
Independent audit	10,000	0		
Labour	1,201,716	559,587		
Staff training	15,000	0		
Travel	35,000	302		
Total project costs	1,845,000	668,142		

The agreed project costs above are for the grant period from 1st February 2021 to 30th November 2022.



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# 2022 OUTLOOK

# **Vision**

To create a more inclusive, dynamic, and sustainable STEM sector in Australia.

# **Purpose**

To cultivate the conditions in which all Australians can pursue successful and rewarding careers in STEM.

Goals

**Mission** 

to gender equity in STEM.

To mobilise employers, educators, and carers to remove barriers to girls' and

To embed a consideration of intersectional barriers into everything we do

To mobilise Australians to remove barriers

# **Two Pillars**

## **Attract**

- Raise awareness of the diverse and exciting career possibilities in STEM, and of the economic benefits of STEM careers for individuals and for the nation
- Amplify the visibility of diverse womer in STEM
- Challenge gender perceptions of career and discipline choice
- Support programs that facilitate womer re-skilling and entering STEM pathways

# **Retain & Progress**

- Support organisations to address inequities that prevent retention and progression of women in STEM fields
- Showcase evidence-based actions that have been proven to work



Professor Lisa Harvey-Smith at the National Press Club.

#### What We Do

The work of the Office is underpinned by our vision, mission, and purpose, and we work towards the achievement of our strategic goals through our projects, communications and engagement, advocacy and advisory work.

Seven projects aligned with our two pillars have been identified as our focus for 2022:

#### To ATTRACT women and girls to STEM

- 1. Future You
- 2. Influencing the Education Sector

# To RETAIN & PROGRESS women working in the STEM sector

- 3. The Anonymous Review Trial and Study
- 4. The National Evaluation Guide and Portal
- 5. Grants by Gender
- 6. Smoothing STEM Pathways
- 7. The WGEA Research Collaboration

# **Appendix 1**Women in STEM Ambassador Work Plan 2022

o Z	. Activity	Priority	Stakeholders/ collaborators	Outcomes	no.	KPIs	Start date	End date
-	Implement the 'Future You' initiative to promote STEM career pathways, reduce sterotypes	НВН	• DISER • Children aged 8 to 12 • Educators	Target audiences are aware of the diverse and exciting career possibilities in STEM, and of the committee of	1.1	Expand on successful elements of the pilot Future You campaign and transition to an on-going program with a continuous communications plan.	January 2022	August 2022
	visibility of girls and women in STEM.		Families     STEM organisations     Education Services		1.2	Partner with high-profile STEM organisations to create authentic content and expand the initiative's reach.	January 2022	August 2022
			Australia (Girls in STEM Toolkit)	y of diverse women increased.  Derceptions of discipline choice are	1.3	Develop and implement a communications plan that supports Future You activities (e.g. launch activities) to promote the initiative and grow audiences.	January 2022	August 2022
				challenged.	4.	Partner with industry and other leaders in areas of national significance, such as manufacturing, low emissions technology and resources to develop content that profiles and promotes areas of national skills need.	January 2022	August 2022
					7.	Develop a sustainability strategy for Future You and secure funding partners.	January 2022	March 2022
					9.	Deliver ongoing evidence-based awareness raising digital content.	January 2022	August 2022
					1.7	Ongoing evaluation of impact including recommendations for the development and delivery of an initiative with sustained outcomes.	January 2022	August 2022
7	Support implementation of Boosting the Next Generation of Women in STEM program.	H B H	DISER     Program delivery partner     Universities     NIER	A fit for purpose program design that increases representation of women in the CTEM world force and	2.1	Participate in the co-design of the program (including connecting the delivery partner with relevant stakeholders).	January 2022	April 2022
			• STEM industries	ew ons rry	2 2 2 2 2 2	Participate in governing body (TBC). Promote uptake through networks and media.	April 2022 April 2022	TBD Ongoing

o Z	. Activity	Priority	Stakeholders/ collaborators	Outcomes	KPI no.	KPIs	Start date	End date
м	Develop and launch an Evaluation Portal to support Women in	HIGH	• DISER • STEM organisations	Women in STEM programs are effectively evaluated and	3.1	Engage an appropriate vendor to create the Evaluation Portal.	October 2021	January 2022
	STEM program managers to conduct evaluations, share data and attract funding for proven			learnings are shared across the sector.	3.2	Test and launch the Evaluation Portal.	July 2022	October 2022
	projects. Draft a project outline and plan appropriate ways to target/incentivise participation from a			The Evaluation Guide and Portal are widely adopted across the sector.	3.3	Deliver communications activities to support the launch and use of the Evaluation Portal.	September 2022	October 2022
	range of sectors and organisations. Include a program logic.				κ. 4.	The portal is widely adopted by the sector to evaluate programs.	October 2022	Ongoing
4	Advise leaders and policy makers on issues affecting women and girls in STEM and evidence-based integrations and onlines to	H <sub>O</sub> H	DISER/Minister     Office for Women     Minister for Women	Leaders and policy makers are informed and able to make policy decisions	4.	Advise government departments and Ministers and inform policy outcomes relating to women and girls in STEM.	January 2022	November 2022
	support Women in STEM.		departments  DESE/Minister  STEM organisations,	designed to address systemic issues affecting the participation of girls and women in STEM.	4 2:	Support the Department of Industry, Science, Energy and Resources in the development and ongoing implementation of gender equity in STEM initiatives.	January 2022	November 2022
			• DFAT/Aus Ambassador for Gender Equality • WGEA		4 &	Involvement in advisory groups with leaders from key organisations and government agencies including the Defence STEM Council.	January 2022	November 2022
			- Defence/Minister		4 4.	Engage with international stakeholders to share Australia's unique policy and institutional responses on gender equity in STEM.	January 2022	November 2022
Ŋ	Provide input to consultations on future STEM workforce needs and STEM of institution for an appropriate the particular for an appropriate the particular for an appropriate the particular for a	HBH	Government departments	Government departments and STEM organisations	5.1	Consult on policy and strategies relevant to women in the STEM workforce.	January 2022	November 2022
	s rem education for government departments/STEM organisations as requested.		• STEM organisations	receive specific freedback with a view to implement measures to remove barriers to girls' and women's participation in STEM.	5.2	Provide feedback on discussion papers, guidelines and other documents as required.	s January 2022	November 2022

End date	November 2022	November 2022	November 2022	November 2022	November 2022	November 2022	November 2022	November 2022
Start date	January 2022	January 2022	January 2022	January 2022	January 2022	January 2022	January 2022	January 2022
KPIs	Engage new STEM stakeholders (for example from the climate change/ low emissions technology space) in gender equity initiatives to develop relationships, make the case for change, and influence the implementation of evidencebased interventions and policies to support women in STEM.	Promote high quality existing initiatives and resources to stakeholders through talks, media channels and meetings, including programs designed to assist in re-engaging girls and women in STEM following the impact of the COVID-19 pandemic.	Identify and engage stakeholders and other leaders, particularly in areas of national significance such as manufacturing, low emissions technology and resources, who are not currently focused on systemic change for gender equity. Reach out to the Clean Energy Council to begin consultation in this space. Develop relationships, make the case for change and influence the implementation of evidence-based interventions and policies to support Women in STEM.	Continue to broaden the network of the Women in STEM Ambassador to coordinate efforts and amplify existing initiatives.	Develop and deliver a plan to promote PM's prizes, Eureka Prizes and other awards to women. Map out key engagement times and strategies across different prizes/award throughout the year.	Develop and deliver a plan to engage and advise prize organisers on strategies to make selection processes more equitable.	Support and share the activities and research outputs of relevant organisations.	Meet regularly with leaders of the organisations to discuss opportunities and provide advice when requested.
A on	6.1	6.2	M. O	0 4	7.1	7.2	8.1	80 62
Outcomes	Key stakeholders are mobilised to remove barriers to girls' and women's participation in STEM.  Organisations are supported to address inequities that	progression of women in STEM fields		Increase in the number of women who apply or are nominated for, and who win, awards.		Corporate and industry leaders are mobilised to	participation of girls' and women in STEM. Resources are shared and widely used across the sector.	
Stakeholders/ collaborators	DISER and other Government departments     Australia's Chief Scientist     Academies and peak bodies     SAGE     Chief Executive Women	Champions of Change Coalition Engineering for Australia Taskforce Gender Strategy Group STEM organisations		Ousernment		• CEW • CCC • DISER • SAGE • STEM organisations		
Priority	Н 9 Н				MEDIUM		H 9 H	
o. Activity	Mobilise stakeholders across education, industry, research, and government to identify opportunity areas to drive change, support existing gender equity activities, and coordinate and collaborate on initiatives.				Inform awards committees and public campaigns on how to encourage diversity of recipients and selection committees.		Support and leverage the networks of existing sector organisations	Women (CEW) and Champions of Change Coalition (CCC) to remove barriers to women's participation in STEM. Share latest research and outcomes with the STEM community to encourage uptake of positive measures.
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End date	November 2022	November 2022	November 2022	November 2022	November 2022	November 2022	November 2022	February 2022	February 2022	November 2022	November 2022		
Start date	January 2022	January 2022	January 2022	January 2022	April/ May 2022 (Timing TBC)	January 2022	April 2022	February 2022	February 2022	January 2022	January 2022		
KPIs	Promote the Decadal Plan widely through speeches, media, and other activities.	Encourage stakeholders to implement relevant Decadal Plan recommendations. Provide advice to Decadal Plan Champions if requested.	Promote the STEM Women database and Girls in STEM Toolkit as appropriate through keynote speeches and other communication channels e.g. social media.	Provide support to the Superstars of STEM as a mentor and notify the Superstars of media opportunities as appropriate.	Promote the STEM Equity Monitor as the go-to data source for statistics on girls and women's representation in STEM, influencers' perceptions of girls' and boys' abilities, and student subject choices.	Collaborate to ensure the Office of the Women in STEM Ambassador's work aligns with existing initiatives.	Promote and help shape the Boosting the Next Generation of Women in STEM program to encourage uptake.	Publish Annual Review 2021 and disseminate to key stakeholders.	Submit 2022 Annual Work Plan in February based on Minister for Science and Technology Statement of Expectations.	Regular communications across social channels and the WISA website to communicate the work of the Office and key gender equity messages.	Proactively seek opportunities to share Australia's unique policy and institutional responses on gender equity in STEM with partners in international fora.		
no.	9.1	9.2	9. 10.	0. 4.	ව ැට	9.	9.7	10.1	10.2	10.3	10.4		
Outcomes	of Progress is made toward implementing the recommendations in the Decadal plan. Existing initiatives and resources are shared and utilised across the sector. The STEM Equity Monitor is used as an evidence base for decisionmaking.								The Australian public are aware of the Women in STEM Ambassador, and the media recognise that the Ambassador is a leader and expert on women in STEM.				
Stakeholders/ collaborators	Australian Academy of Science Science DISER  Education Services Australia STA  STEM organisations								PR partner (TBC)     Government     Departments     DISER     STEM organisations     Educators     Families				
Priority	H D H							H H H					
Activity	Promote and share recommendations from the Women in STEM Decadal Dlan and support	its implementation. Promote existing women in STEM initiatives including the Women in STEM	grants, STEM Equity Monitor, STEM Women website, the Girls in STEM Toolkit, Boosting the Next Generation of Women in STEM and STA's Superstars of STEM.					Deliver communications activities to support and maintain the	recognised leader and expert on women in STEM.				
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Activity		Priority	Stakeholders/ collaborators	Outcomes	70 no.	KPIs Develop a media strateay to secure regular	Start date	End date	Year in Re
						media coverage on the role of the Women in STEM Ambassador, including at least 5 television appearances, 1 major feature in a mainstream media outlet (e.g. Australian Women's Weekly feature 2021), and develop relationships to enable regular media appearances e.g. as a 'go to' person for comment.	2022	2022	view 2021
					10.6	Write and release the Women in STEM Impact Report.	July 2022	November 2022	
Deliver communications activities to promote diversity in STEM careers and key messages around gender equity in STEM, engaging a promote of traditional and naw	, _ o >	HBH	PR partner (Established Media, others TBC)     Media influencers     STEM organisations     Pacaerhere	The Australian public understand that STEM is for everyone.	1.1	Develop a communications plan that promotes and communicates the outreach and engagement activities of the Women in STEM Ambassador and the work of the Office to the Australian public.	October 2021	November 2022	
media.	>			of the diverse and exciting career possibilities in STEM, and of the economic benefits of STEM careers for individuals and for the nation.	11.2	Implement and monitor the communications plan across online, social media, print, radio and television media, and undertake monthly reviews and assessment of messaging, engagement levels and resonance with the target audience.	January 2022	November 2022	
				The visibility of diverse women in STEM is increased.	11.3	Lead communications efforts through media series which will engage and reach audiences aligned with MICA's et atonic principles (a.g.			
				Gendered perceptions of career and discipline choice are challenged.		angled with whom stategic profites (e.g. parents and carers and regional communities).			
					<u>+</u>	Leverage dates of significance (e.g. International Day of Women and Girls in Science, International Women's Day, NAIDOC Week, National Science Week) to promote the Office's projects and other gender equity in STEM initiatives.	January 2022	November 2022	
					E.	Support existing Australian Government Women in STEM initiatives by embedding them across WISA communications, where relevant, as well as amplifying announcements on social media platforms and co-creating content when requested (e.g. video content).	January 2022	November 2022	
					11.6	Secure regular media coverage featuring the Ambassador and the Office's key messages	January 2022	November 2022	

End date	November 2022	November 2022	November 2022	November 2022	November 2022	November 2022	November 2022	November 2022	November 2022	
Start date	January 2022	February 2022	January 2022	Pebruary 2022	January 2022	February 2022	February 2022	January 2022	February 2022	
KPIs	Collaborate with relevant organisations on activities and associated media campaigns around key dates/events.	Promote diversity of speakers at conferences and events.	Consult with relevant expert stakeholders in the development and delivery of content produced by the Office.	Profile the increased barriers to participation and underrepresentation of diverse groups in STEM and evidence-based interventions to address these challenges. These groups include Aboriginal and Torres Strait Islander women, LGBTQI+ people, those living with disability, residing in regional or remote locations, and those from culturally and linguistically diverse backgrounds.	Support the sector to address inequities and issues related to intersectionality which prevent organisations from retaining women with intersecting identities in STEM fields.	At least 45 conference talks, panels, media appearances and articles per year that make the case for gender equity in STEM.	Promote the implementation of key government-funded activities as evidence-based interventions for the sector.	Deliver at least 5 keynote and panel presentations at conferences and events for educators, education providers, and students.	Engage virtually with at least 30 schools, colleges, universities, VET providers and cultural institutions across Australia, through the Future You campaign, educational resources available via DART Learning, and selected virtual talks or events.	Provide ongoing advice to the Department of Education, Skills and Employment regarding building the STEM pipeline through the education system.
RPI No.	12.1	12.2	12.3	4.51	12.5	13.1	13.2	14.1	14.2	14.3
Outcomes	The visibility of diverse women in STEM is amplified and reflected in the work of	Organisations consider	the intersectional parriers affecting underrepresented groups when addressing gender equity.					Educators address and correct gender bias and stereotypes in their	classrooms. STEM subjects are chosen equally by students of all genders.	
Stakeholders/ collaborators	STEM organisations     Not-for-profit     organisations     Doctor brodies	DISER and other government agencies	including NIAA and Office for Women			STEM organisations     Government departments	<ul> <li>Kesearch organisations</li> </ul>	• DISER • DESE • State Education	Departments • Educators • Students	
Priority	HIGH					HIGH		H B H		
Activity	Embed a consideration of intersectional barriers into the advisory and communications					Communicate the case for gender equity and the Women in STEM strategy across the sector - via	conference keynotes, panels, speeches and articles.	Communicate with educators, education providers and students about gender equity in STEM	education and to promote best practice to reduce gender bias and stereotypes. Advise the Department of Education, Skills and Employment on evidence- based measures to upskill STEM	educators and improve girls' uptake of STEM subjects.
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Z	No. Activity	Priority	Stakeholders/ collaborators	Outcomes	MPI No.	KPIs	Start date	End date
5	Darticipate in academic research collaborations that study the	HIGH	Workplace Gender Equality Agency     CTEM Adjusting and	The Office contributes to the evidence base on Women in crew	15.1	Pursue research publications from the activities of the Office where appropriate.	February 2022	November 2022
	gender factors within 31 EPT education and engagement.		gender equity academics		15.2	Secure and commence a research collaboration agreement with WGEA to study gender factors within Australian STEM and non-STEM workplaces.	January 2022	June 2022
					15.3	Analyse 7-years of WGEA data and collaborate with WGEA to write and submit findings to be published in reports and academic journals.	November 2022	December 2022
7	16 Work with national research funding councils to identify opportunities to improve gender equity and diversity in STEM.	MEDIUM	• ARC • NHMRC • DISER	Funding councils act on opportunities to improve gender equity and diversity in STEM.	16.1	Support research funding organisations to identify areas for improvement and encourage implementation of evidence-based changes to address these areas.	November 2022	December 2022
					16.2	Provide advice and feedback where requested on consultation documents, reports, etc.	February 2022	November 2022
					16.3	Meet with ARC, NHMRC and AusIndustry to keep up to date with activities and identify where our Office can offer support.	February 2022	November 2022
17		MEDIUM	• CSIRO • NCI		17.1	Collect and analyse data, write and submit research paper to be published.	January 2022	December 2022
	application/selection processes and investigate the outcomes for gender equity.		Austo     Austo     DISER     Government     organisations e.g. DFAT	an application process in research/STEM organisations.  Organisations.  Ongoing data collection adding to the evidence for this measure as a method to reduce bias in an Australian context.	17.2	Deliver communications activities to promote the findings and publication of the research.	January 2022	November 2022
8	Host and maintain the Expert     FindHer Resource directory.	MEDICA	• DISER • CSIRO	Provide increased visibility of and access to information and support for female	18.1	Transfer directory content from https://staging.expertfindher.global/initiatives to the Ambassador's existing website.	December 2021	February 2022
				nd dHer ntent tiatives kisting	18.2	Maintain directory content on the Ambassador's existing website.	February 2022	Ongoing



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