

THE  
**POWER OF ENGINEERING**  
CREATE YOUR FUTURE



**CELEBRATING  
10 YEARS OF IMPACT**

Annual Report 2022

**“I WAS QUITE CONFUSED ABOUT WHAT ENGINEERING ACTUALLY WAS BUT NOW I UNDERSTAND IT MUCH BETTER!”**

— Year 8 Brisbane Student



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# PRESIDENT'S REPORT

Ashley McCarthy-Griffiths

When we held our first Power of Engineering event back in 2012 before STEM was an acronym, our vision was to challenge female and regional student perceptions about Engineering.

With the hope, they would one day attend university and become Engineers. From our first standalone event held at Queensland University of Technology, the significant change about Engineering perceptions and lasting impact from our event affirmed the need for Power of Engineering to continue to run these events.

Ten years on I am proud to share we have continued to create a lasting impact whereby we have contributed to the increase in a diverse Engineering workforce here in Australia from:

- Reached over 14,000 students across Australia from delivering our event programs and partnering with like-minded organisations
- 79% of students considering a career in Engineering after an event
- 60% of students whom had never considered a career in Engineering, were considering a career in Engineering
- Power of Engineering event alumni have graduated as Engineers working in Australia and volunteer with us to inspire the next generation through our programs
- Expanded our event program to reach more regional/ rural students through launching and rolling out 71 Engineering in a Box Program
- Built a supportive and connected volunteer community across Australia

Our impact over the past 10 years is something to celebrate and motivate to continue to inspire change across the industry. However, our work is not complete. Today, females make up only 13% of the Australian engineering workforce\*. We will continue to work to shift the dial.

In 2022 we strengthened our programs to deliver against our organisational objectives;

## 1. Challenge students' perceptions about Engineering with industry role models and practical experiences.

We have expanded our program offerings to not only encompass our traditional signature events but developed our Engineering

in a Box program to service rural high school students where we are resource constrained to deliver our event program. 2022 has seen us working to develop our Engineering in a box 2.0 program in partnership with the Queensland Chief Scientist Office with a planned release in the first half of 2023 to service the rural students.

## 2. Grow our volunteer community through development opportunities and through creating a supportive network.

We launched our Emerging Engineering Leaders Program in 2022 which aimed to develop a supportive network of young Engineers through event participation to develop professional skills and social events.

## 3. Be a driver of change and promote diversity of thought across the Australian Engineering industry

Continuing to work with our partners, industry bodies and like minded organisations to shape the future of Australia's Engineering industry to grow and retain diverse Engineers by presenting and sharing at industry leading events.

Power of Engineering functions entirely with volunteers, on the Advisory Committee, on the Executive Team, our project managers and our event teams, most of whom are themselves professional engineers in the workforce. Without this amazing level of voluntary support we could not deliver our extensive program, reaching many thousands of students across Australia, including in regional and disadvantaged areas. I wish to personally thank all of our volunteers for so willingly coming on the journey with us.

I also want to warmly thank our funding partners who provide so much in advice, cash, in kind support and presence on the ground at events.

**Ashley McCarthy-Griffiths,**  
**Power of Engineering President**



# OUR VISION

To continue on awakening an interest in young people about Engineering through strong role models by bringing together the engineering industry, and schools to provide practical and creative experiences for young people to better understand engineering and how it impacts our world.

We continue to execute on our vision through the following objectives:

- 1 Challenge students' perceptions about Engineering with industry role models and practical experiences
- 2 Grow our volunteer community through development opportunities and creating a supportive network
- 3 Be a driver of change and promote diversity of thought across the Australian engineering industry



## United Nations Sustainable Development Goals



4 QUALITY EDUCATION

We promote inclusive and equitable access to quality education and life-long learning.

We do this by encouraging female and regional students to continue their STEM education, as we believe STEM skills provide a strong foundation for any career.



5 GENDER EQUALITY

We aim to achieve gender equality and empower women and girls by increasing their representation in the engineering industry.

We also empower women in engineering to take on leadership roles, develop communication skills, and boost their confidence.



8 DECENT WORK AND ECONOMIC GROWTH

We promote inclusive and sustainable growth and full, productive work for all.

We do this by inspiring the next generation of diverse engineers to provide a steady pipeline from schools to Australia's growing industry.

# OUR PROGRAMS



## 2014, QUT Vice Chancellors Excellence Award

Early Advisory committee members Brendan Williams, Les Dawes, Simone Long and Doug Hargreaves with founders Jillian Kenny and Felicity Furey, 2014

“I LEARNT THAT THERE ARE MANY TYPES OF ENGINEERS AND THAT IT ISN'T JUST A MALE'S JOB”

Year 9 Bundaberg Student



## OUR SIGNATURE EVENTS

We have delivered 140 events across Australia to challenge student perceptions about Engineering with over 79% considering a career in Engineering after attending one of our events.

Our one day free high school events aim to showcase to students the opportunities that a career in Engineering can offer so that they can consciously consider a career in Engineering. To break down the stereotypes associated with Engineering, such as it is all about maths and science, or you have to be the smartest in the class, all our events are designed for participation of high school students.

### Our events consist of:

- Engineering role models leading the day and providing opportunities for students to ask questions and understand what a day in the life of an Engineer can look like
- Practical workshops where students apply their knowledge and skills to solve Engineering problems highlighting the collaboration, diversity and social impact of Engineering
- Connecting with industry through site visits for students to understand the roles that Engineers play in their own community.

“I USED TO THINK ENGINEERING WAS BORING BUT NOW I SEE IT IS FUN”

Year 9 Brisbane Student

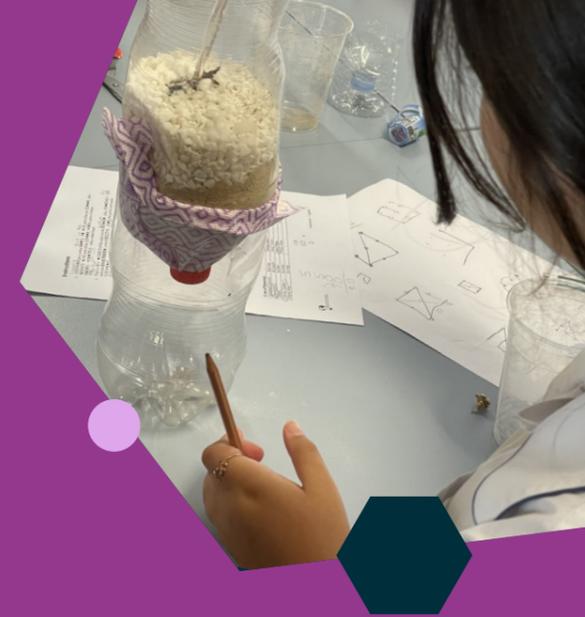


**“I WAS QUITE CONFUSED ABOUT WHAT ENGINEERING ACTUALLY WAS BUT NOW I UNDERSTAND IT MUCH BETTER!”**

Year 8 QUT Event Student



**88% OF STUDENTS FROM THE EVENT ARE CONSIDERING A CAREER IN ENGINEERING AFTER TODAY WITH 11 STUDENTS NEVER CONSIDERING A CAREER IN ENGINEERING UNTIL THE EVENT.**



**“IT IS SUCH A GREAT OPPORTUNITY”**

Newcastle Teacher



**“THE MOST INTERESTING THING ABOUT TODAY WAS HOW MUCH ENGINEERING IS IN LIFE”**

Year 7 Newcastle Student

## QUT EVENT

Our first event in 2012 was hosted in partnership with Queensland University of Technology and ten years on our foundational partnership has continued to grow. From regional road trips across Queensland to Brisbane metro events, together we have reached over 5,000 Queensland high school students.

This year Queensland University of Technology held a multi-day event that saw over 150 students from over 25 schools travel to industry partners across Brisbane where they saw what engineering looks like in their local community.

## NEWCASTLE EVENT

Students travelled up to three hours away to attend our final event of 2022 held in Newcastle by Maitland Grossman High School.

With over 90 students in attendance on the day, students heard from Engineers at BesixWatpac about their career journey and what a day in the life as Engineer can look like. They then participated in hands-on workshops including Build a Bionic Hand and Water Filtration. Flexing their skills and knowledge to solve engineering problems and see the diverse types of Engineering out there. In the afternoon, students went to industry site tours and gained an understanding of what engineering looks like in their local community through site tours at Ampcontrol, Acciona, and Hunter New England Hospital.



# 83

## BOXES DELIVERED SO FAR

## ENGINEERING IN A BOX

Engineering in-a-Box has had a busy year of preparation for the planned launch of Engineering in-a-Box 2.0 in 2023.

As last year came to a close, we were busy looking for funding opportunities for the next phase of the program, as well as considering the team we would need to bring the next generation of Box to fruition. The mission for EiaB 2.0 is to showcase a broader spectrum of today and tomorrow's engineering world, as well as highlight what life is like as an engineer and the pathways to getting there – thus deepening the overall impact of the program.

The first big win was that we were successful in securing a Queensland Government Chief Scientist Engaging Science Grant. This will kickstart the 2.0 program for 2023 which we hope to then continue with an industry sponsorship model.

We have been very lucky to score the support of a dedicated STEM education adviser, which is ensuring that the product design will be fit for purpose from an educational standpoint and cover the year group specific science curriculum topics as a key drawcard for schools. We also have had the ongoing support of a team of industry advisers from ADP Consulting, Port of Brisbane and Sims Metal, who have all been instrumental in bringing the 'real life' aspects of the product to life throughout the design process.

2023 will no doubt be a big year as we look forward to launching the next generation of Engineering in-a-Box, kicking off across rural and regional Queensland schools. The EiaB pilot program was more successful than we ever thought it would be – and we can't wait to see EiaB 2.0 take this great concept from strength to strength.



## ABOUT ENGINEERING IN A BOX

Engineering In A Box is a four-lesson reusable classroom resource designed to show in grades 8-10 students how engineers make an impact on society.

The lessons present the widespread problem of rapid population growth and how it affects infrastructure.

The Box contains all the materials required to run the four lessons:

- Teachers' guide – including how the lessons link back to the school curriculum and lesson plans
- Reusable worksheets and cards
- USB with videos and soft copies of printable materials

# OUR IMPACT



2015, Ministers STEM Day  
with Intel

Jillian Kenny interacting with students at the Prime  
Minister's STEM Day hosted by Intel in Sydney, 2015





# 14,163

**TOGETHER WE HAVE CHALLENGED THIS MANY STUDENTS' PERCEPTIONS ABOUT ENGINEERING.**

**To date we have:**

	2017	2018	2019	2020	2021	2022	Total
Total number of students reached (our programs + like minded organisations)	1785	2065	2319	1690	924	798	<b>14,163</b>
Number of students reached through our programs	1785	2065	2319	1,680	434	731	<b>13,596</b>
Number of Signature Events	25	29	21	1	3	6	<b>140</b>
Number of delivered Engineering in a box	N/A	N/A	N/A	67	16	-	<b>83</b>
Number of schools	138	106	104	4	39	30	<b>715</b>
% who would consider a career in Engineering	86%	78%	77%	-	83%	73%	<b>79%</b>
% students who changed their mind from a no to a yes about a career in Engineering	75%	68%	62%	-	71%	60%	<b>67%</b>
% of students who were satisfied or very satisfied with the event	89%	94%	96%	-	100%	93%	<b>94%</b>
% of students who would recommend the event to a friend	95%	91%	92%	-	98%	93%	<b>94%</b>



# OUR VOLUNTEERS

2017, Deakin Waurn Ponds event



FROM OUR ADVISORY AND EXECUTIVE VOLUNTEERS TO OUR EVENT DAY VOLUNTEERS, ALL OUR VOLUNTEERS HAVE BEEN PIVOTAL IN PROGRESSING OUR VISION OF CHALLENGING STUDENT PERCEPTIONS ABOUT ENGINEERING.



## COMMITTEE

### Advisory Committee

**Belinda Gibson**  
Chair

**Felicity Furey**  
Co-Founder

**Jillian Kenny**  
Co-Founder

Else Shepherd  
Mushfiq Rahman  
Maria Koutsimpiris  
Simone Long  
Les Dawes  
Brendan Williams

### Executive Committee

Ashley McCarthy-Griffiths  
President

Amita Jade Roesing  
Secretary

Ellen Manning  
Treasurer

Chloe Turrell  
National Operations Manager

Chris Humphries  
Engineering in a Box Development Manager

# EMERGING ENGINEERING LEADERS PROGRAM

What do you get when you combine civil, mechanical, mining, mechatronics, electrical, project and chemical Engineers? The launch of our emerging engineering leaders program for 2022!

Our program focuses on creating a supportive network for early career female Engineers with development opportunities for participants to address low retention rates seen within the industry.

Participants attended leadership skill focussed masterclasses throughout the year where they learnt skills such as, the power of influence to the power of critical conversations and negotiations and what success looks like in project management. Our Emerging Leaders were then able to further develop and apply these skills through leading the project management of one of our signature events



**“THIS PROGRAM REPRESENTS A MEANS THROUGH WHICH I CAN GROW IN AREAS SUCH AS LEADERSHIP, COMMUNICATION AND REPRESENTING MYSELF NOT ONLY THROUGH LEARNING, BUT ALSO HAVING OPPORTUNITIES TO IMPLEMENT MY LEARNING IN RELEVANT SETTINGS. THIS IS WHY THE EMERGING ENGINEERING LEADERS PROGRAM STOOD OUT TO ME; NOT ONLY DOES IT AIM TO BUILD YOUR SKILLS, IT ALSO PROVIDES OPPORTUNITIES TO PRACTISE AND ACTIVELY WORK ON THEM.”**

2022 Emerging Engineering Leader Participant



# OUR PARTNERS



**2020, I Want To Be An Engineer recording**  
Jillian Kenny recording PoE volunteer Samantha Dungey's children's book 'I Want To Be An Engineer'

# OUR PARTNERS

For every \$1 we receive in corporate funding, we receive \$3 of in-kind support from partners and \$6 of volunteer time to run the organisation. In-kind partnerships are critical for us to run PoE and provide value for our partners in employee engagement, retention and professional development.

Thank you to our continuing partners for your ongoing support towards Power of Engineering in 2021. We value our long-term and ongoing partners Boeing and Arup who drive the sustainability of our organisation for us to continue to challenge student perceptions about Engineering.



## Welcome to our new partner – SMEC

SMEC is a global engineering, management and development consultancy with a 70-year history of delivering advanced solutions for our clients and partners.

We provide technical expertise and advanced engineering services to resolve complex challenges within roads, highways, rail, metro, airports, hydropower and renewable energy markets.

From major cities to regional centres we operate across 18 offices in Australia & NZ. At our core is the 'SMEC Spirit' which is evident in our people, values and culture. Recognised Employer of Choice for Gender Equality by the Workplace Gender Equality Agency (Australia), we actively promote an inclusive workplace and value people with different backgrounds, skills and expertise to drive innovation and shared learning across our growing global network.

We are passionate about connecting with the next generation to inspire them about engineering. Great ideas powered by people in STEM are enhancing the way we live, study, work and play.



## Spotlight on long standing partner and supporter – Boeing

Power of Engineering's focus on diversity by encouraging a greater number of non-traditional entrants into engineering careers, and breaking down the cultural perception that it is male dominated field continues to strongly align with Boeing's intentions to foster inclusion and increase diversity, including gender diversity in our company and across the industry. Power of Engineering have proven to be a very effective STEM partner in Australia with a particular focus on enhancing the female engineering talent pipeline at the secondary school level where critical career decisions are made by students.



## Queensland University of Technology (QUT) is our foundational partner who have been involved since our first event in 2012.

QUT helps us challenge Queensland student perceptions about Engineering and provide insight to students about what it is like to study Engineering at university. In partnership with QUT this year we reached 300 students across 18 schools and 11 industry partners to showcase the role Engineers play in the Queensland community.



Arup is an independent firm of designers, planners, engineers, architects, consultants and technical specialists, working across every aspect of today's built environment. Through our Global Community Engagement programme, we aim to deliver lasting positive outcomes for the most vulnerable and marginalised people and communities.

We direct our efforts to areas where in partnership we can add value to addressing community needs. By enabling our members to apply their professional and technical expertise in collaboration with others, we hope our legacy will be a safer, more resilient, and inclusive world. One of the priorities in Australia is to increase opportunities that enable social mobility such a strengthening pathways into Science, Technology, Engineering, Arts and Maths (STEAM) for youth from diverse backgrounds.

Arup's work with Power of Engineering is an opportunity for our staff to inspire female students in early high school to consider the possibilities of a career in STEAM before they choose their senior subjects and tertiary education pathways. Since entering a partnership with Power of Engineering in 2018, Arup has provided keynote speakers at events, offered 'speed mentoring', facilitated workshops and site tours of completed Arup projects. We are proud to connect students with passionate and successful female role models in our firm, where students can hear more about the varied and exciting careers opportunities in the built environment. During the COVID pandemic, Arup staff contributed to designing 'in a box' lesson plan materials which allow teachers to take Power of Engineering workshops into classrooms around the country. We are looking forward to returning to in-person events from Term 4 of 2021.



# FINANCIALS

## Qantas Engineering Leadership Conference

Jillian Kenny, Renee Wootton and Felicity Furey after presenting at the Qantas Engineering Leadership Conference



# PROFIT AND LOSS

Power Of Engineering Inc. For the year ended 30 June 2022

	2022
<b>Trading Income</b>	
Interest Income	178.41
Sales- Events	10,449.67
<b>Total Trading Income</b>	<b>10,628.08</b>
<b>Other Income</b>	
SMEC	13,650.00
Sponsorship	10,000.00
<b>Total Other Income</b>	<b>23,650.00</b>
<b>Operating Expenses</b>	
Advertising	568.19
Bank Fees	38.04
Brand and Comms Systems	657.40
Brisbane (QUT) Event	7,992.45
Bundaberg Event	1,697.09
Consulting & Accounting	2,182.60
Email costs	2,128.28
Engineering in-a-box expenses	903.93
Event Travel	93.43
General Expenses - Events	278.85
General Expenses - Non-event	52.00
Insurance	4,548.05
Interest Expense	(9.95)
Marketing	221.25
Office Expenses	186.18
Printing & Stationery	2,904.02
Survey Monkey Costs	384.00
Temora Event	6,879.75
Virtual Assistant Support	10,835.18
Website	577.83
<b>Net Profit</b>	<b>(8,840.49)</b>

# BALANCE SHEET

Power Of Engineering Inc. As at 30 June 2022

	30 JUN 2022
<b>Assets</b>	
Bank	
POE BUSINESS SAVER	117,719.50
POE BUSINESS TRANSACTION	5,353.68
POE CARD ACCOUNT	2,446.14
Total Bank	125,519.32
<b>Total Assets</b>	<b>125,519.32</b>
<b>Liabilities</b>	
Current Liabilities	-
Accounts Payable	8,026.76
DETE	1.27
Suspense	(1,779.85)
Total Current Liabilities	6,248.18
<b>Net Assets</b>	<b>6,248.18</b>
<b>Equity</b>	
Current Year Earnings	(17,331.83)
Historical Adjustment	50,122.02
Retained Earnings	86,480.95
<b>Total Equity</b>	<b>119,271.14</b>

## Get in touch

Website: [powerofengineering.org](http://powerofengineering.org)

Email: [info@powerofengineering.org](mailto:info@powerofengineering.org)

Phone: 0458 619 324

## Social Media

Facebook: [facebook.com/PowerofEngineering](https://facebook.com/PowerofEngineering)

Twitter: [@PowerofEng](https://twitter.com/PowerofEng)

LinkedIn: [linkedin.com/company/  
powerofengineering](https://linkedin.com/company/powerofengineering)

Instagram: [@PowerofEngineering](https://instagram.com/PowerofEngineering)

