



Karen Burt Memorial Award Impact Report 2025





Foreword

By Professor Cyril Hilsum CBE FRS FREng

This report is published some months after the memorable occasion that was the latest celebratory dinner honouring the past 10 years of winners of the Karen Burt Memorial Award. That evening was both joyful and poignant. It coincided, by a cruel coincidence, with the anniversary of Karen's death nearly 30 years ago. David, who was Karen's husband, and I began the day at her memorial, quietly reflecting on a life of brilliance, compassion, and unfinished promise.

Yet Karen would have wanted it to be a happy day. She believed that problems were challenges to be met, and she lived her life not only in pursuit of personal excellence, but in service of others, especially women in engineering. As a space scientist at British Aerospace and later at UCL, she championed the return of women to engineering after family leave, creating pathways for talent to re-enter and thrive.

The Karen Burt Memorial Award was established in her name to honour that legacy: to celebrate newly Chartered women engineers and to encourage others to follow. Since 1999, the Women's Engineering Society has stewarded this award with care and purpose, recognising those who show exceptional promise and embody Karen's spirit of achievement and advocacy.

To the winners past and present: you are part of something enduring. Your success is not only a personal milestone, but a continuation of Karen's mission. The selection process is rigorous, and your inclusion is a mark of distinction. I hope you wear it proudly, and that it features prominently in your professional story. This award is part of her memorial, and you are its living legacy.

This impact report reflects the strength of that legacy. It brings together stories of achievement, connection, and progress. I hope it inspires you to remain connected, support one another, and continue shaping the future of engineering through your collective strength. Individually, you have already achieved much. As a united body, you can do even more.

Cyril Hilsum CBE FRS HonFInstP FREng



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Notes on the timing of the report

This impact report is published in the year of Cyril Hilsum’s centenary - a milestone that also marks more than 25 years since the establishment of the Karen Burt Memorial Award. It reflects on the award’s enduring influence: celebrating the remarkable women who have received it, and the many others inspired by their work and leadership. The Women’s Engineering Society is deeply grateful for the trust placed in us, which allows us the privilege of honouring Karen’s legacy and supporting the future it continues to shape.

This report draws on two key sources: testimonials from recent award winners shared at the celebratory dinner hosted by Cyril this summer, and responses from alumnae gathered through a dedicated survey. It showcases the professional journeys of the winners, the values the award embodies, and its contribution to fostering a more inclusive and future-focused engineering sector.

1. Introduction

Since its inception in 1999, the Karen Burt Memorial Award has honoured newly Chartered women engineers who exemplify exceptional potential and professional excellence. Founded by Cyril Hilsum in memory of his daughter, Dr Karen Burt, and supported by the Women's Engineering Society, the award was designed to encourage more women to pursue Chartered status, and to celebrate that achievement publicly.

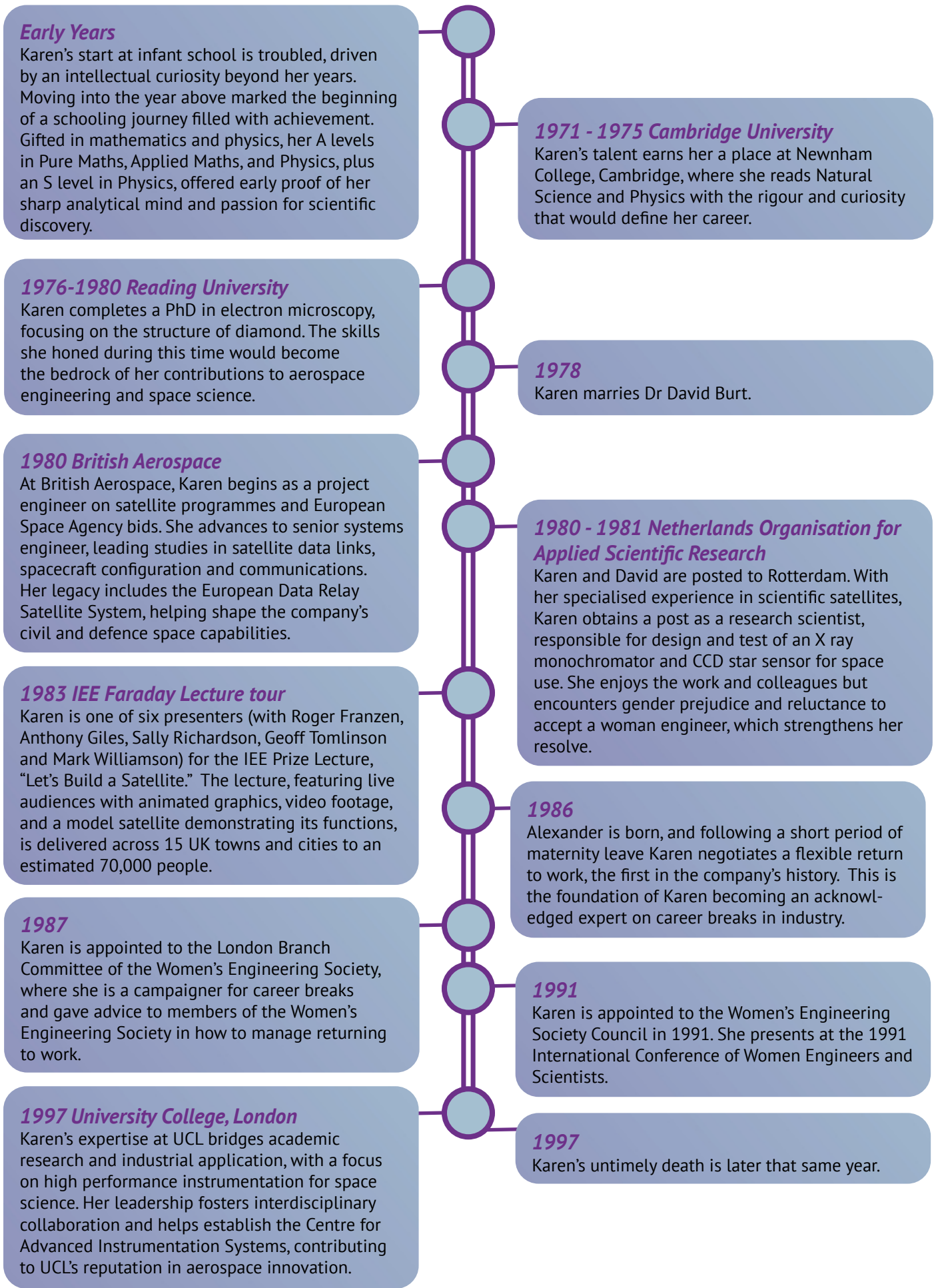
Over time, the award has evolved from a moment of recognition into a symbol of progress and a platform for visibility. It continues to reflect the values Karen championed throughout her career: Legacy and Recognition, Gender equity in Engineering and Professional Excellence. As both an engineer and an advocate, she worked tirelessly to ensure that women returning to the profession had the support and opportunity to thrive. Her legacy lives on through the award and the remarkable individuals who have received it.

This report is both a celebration and a reflection. It explores the impact of this long-standing investment in inclusive engineering leadership and honours the legacy of the Karen Burt Alumnae community it has helped to build.

As well as exploring its impact over time, we also recommend new opportunities to enhance its future direction and expand its contribution to the engineering profession.



2. A journey of engineering leadership



Karen Burt was a visionary and a connector. Throughout her career, she was a sharp-minded advocate for equity in engineering, who understood that small, strategic shifts, such as how employers supported women's retention and recognised professional achievement, could unlock transformative change. She also knew that Chartered status was a gateway to leadership, and a vital step in building the talent pipeline the engineering sector needs to thrive and innovate.

Through her work with the Women's Engineering Society, Karen campaigned for better support around career breaks and offered practical guidance to women returning to technical roles. Her insights helped shape WES's approach to retention and re-entry, and her voice resonated widely through public lectures, policy forums, and international conferences.

Her legacy lives on not only in the satellites she helped launch and the systems she helped design, but in the award that bears her name and the engineers it inspires: The Karen Burt Memorial Award. By recognising newly Chartered women engineers, it celebrates excellence and encourages others to pursue professional accreditation. The award remains a powerful reflection of Karen's belief in visibility, achievement, and the collective progress that comes when women are supported to lead.



“Working with Karen was genuinely inspiring. She was always committed to excellence and had an unwavering determination in everything she did. While she possessed a serious focus on her work, she also knew how to enjoy herself and she could have a giggle when the moment was right. Karen brought both sincerity and professionalism to every project, making her not just an outstanding colleague but also a wonderful friend. My wife and I often enjoyed dinners with her and her husband, and those memories remain very special. She truly stood out for her dedication and the positive energy she brought to our team.”

Roger Franzen AO, Earthspace

“As a woman whose engineering career began two decades after Karen with satellites at Airbus and who went on to be the youngest female Operations Director on the UK's military satellite communications fleet, I am incredibly proud to read Karen Burt's story. The changes she championed enabled engineers like me to contribute with confidence to satellite communications within a sector that remains male dominated.”

Shahida Barick, FRAeS CEng, Space & Defence Expert

3. The Award

The Karen Burt Memorial Award is presented annually to a woman Chartered in the previous year who has demonstrated exceptional technical competence, leadership potential, and commitment to the engineering profession. The award is open to nominees from across the UK and is designed to celebrate excellence at the point of professional accreditation.

Nominations are submitted by Professional Engineering Institutions (PEIs), each of which is invited to put forward one candidate per year. This process ensures sector-wide representation and reinforces the role of PEIs in identifying and supporting emerging talent. The award also encourages institutions to reflect on their own pathways to Chartership and the visibility of women within their membership.

Each year, nominations are reviewed by a judging panel composed of senior representatives from the Women's Engineering Society, past award winners, and invited experts from across the profession. The panel assesses candidates against a set of published criteria, including technical achievement, professional impact, and potential for future leadership. The process is rigorous and inclusive, designed to highlight not only individual excellence but the broader contribution of women to engineering innovation and practice.

The prize carries a financial award of £1,000, made possible by an original bequest from Cyril Hilsum, and, later, supplemented by contributions from his friends and colleagues, all wishing to recognise Karen's achievements. Beyond its monetary value, the prize offers national industry recognition and a platform for winners to share their expertise and inspire others. The award continues to serve as a benchmark for professional recognition and a catalyst for visibility, progression, and sectoral change.

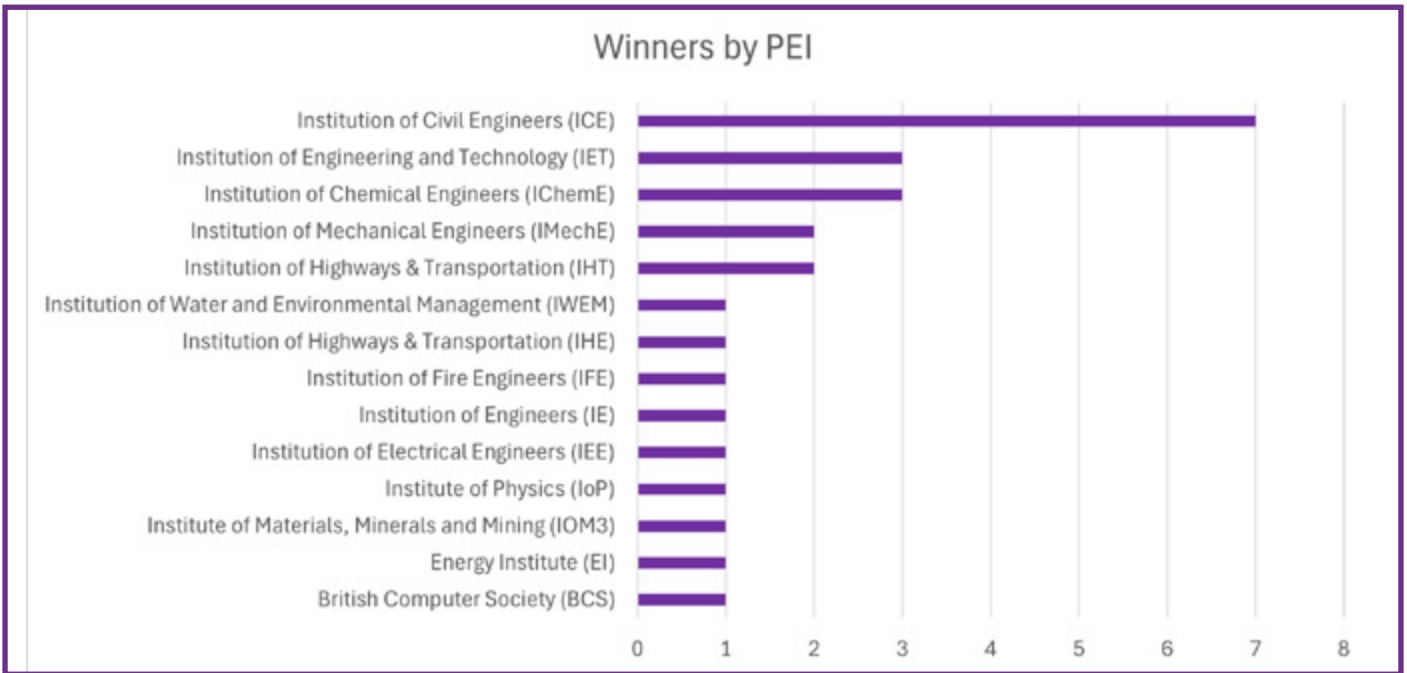


4. The Alumnae

| Year | Winner | Nominating Institution (PEI) |
|-------------|-------------------|--|
| 1999 | Rebecca Dowsett | Institution of Electrical Engineers (IEE) |
| 2000 | Una McQuaid | Institution of Civil Engineers (ICE) |
| 2001 | Beth Hutchison | British Computer Society (BCS) |
| 2002 | Helen Marson | Institution of Chemical Engineers (IChemE) |
| 2003 | Jane Wild | Institution of Mechanical Engineers (IMechE) |
| 2004 | Suzanne Bland | Institution of Civil Engineers (ICE) |
| 2005 | Katy Roelich | Institution of Water and Environmental Management (IWEM) |
| 2006 | Louise McDevitt | Institution of Highways & Transportation (IHT) |
| 2007 | Jane Hunter | Institution of Highways & Transportation (IHT) |
| 2008 | Emily Spearman | Institution of Engineers (IE) |
| 2009 | Katy Deacon | Institution of Engineering and Technology (IET) |
| 2010 | Julie Templeton | Institution of Civil Engineers (ICE) |
| 2011 | Gemma Whatling | Institution of Mechanical Engineers (IMechE) |
| 2012 | Kate Cooksey | Institution of Civil Engineers (ICE) |
| 2013 | Molly Stevens | Institute of Materials, Minerals and Mining (IOM3) |
| 2014 | Elaine Greaney | Institution of Engineering and Technology (IET) |
| 2015 | Helen Randell | Institution of Civil Engineers (ICE) |
| 2016 | Clare Lavelle | Energy Institute (EI) |
| 2017 | Madeleine Jones | Institution of Chemical Engineers (IChemE) |
| 2018 | Dr Susan Deeny | Institution of Fire Engineers (IFE) |
| 2019 | Mandy Lester | Institution of Chemical Engineers (IChemE) |
| 2020 | Tina Gunnarson | Institution of Civil Engineers (ICE) |
| 2021 | Eleanor Earl | Institution of Civil Engineers (ICE) |
| 2022 | Dr Emma Walton | Institute of Physics (IoP) |
| 2023 | Dr Kelly Loukatou | Institution of Engineering and Technology (IET) |
| 2024 | Kerry Evans | Institution of Highways & Transportation (IHE) |

Table 1: Winners since award inception

“The Karen Burt Award is a powerful affirmation of excellence and potential. Each year, it shines a spotlight on a newly Chartered woman engineer whose achievements inspire the profession and elevate the visibility of women in engineering. At the Engineering Council, we value this award as vector of progress toward inclusion across all the PEIs.”



“Achieving Chartership is a mark of professional excellence, and the ICE is proud that so many of our members have been recognised through the Karen Burt Award. This award supports our commitment to raising standards, supporting diversity, and ensuring that the profession reflects the society it serves.”

Jo Horton, Chief Membership Officer, ICE



5. Career Impact Insights from the Alumnae Survey

How has receiving the Karen Burt Award influenced your professional journey, opened new opportunities, and shaped your aspirations for future impact?

The Karen Burt Memorial Award consistently emerges as a powerful and consistent catalyst for confidence, credibility, visibility, and long-term professional growth. A number of themes were clear from the data:

Confidence through self-belief

For many recipients, the Karen Burt Award marked a pivotal shift in self-belief. In early career stages or male-dominated environments, it helped them own their achievements and step forward with renewed confidence. For some, it arrived just when they needed it most: a moment of validation during times of uncertainty or when external recognition had been scarce. That boost became a springboard for bold decisions and moves into leadership for lasting impact.

“It had a profound effect on my confidence and helped me to feel empowered to ask for what I needed to continue in engineering.”

“The award contributed to my sense of pride in my achievements, during what could have been a low point in my professional confidence.”

The award was broadly recognised as a symbol of technical excellence and peer endorsement, boosting recipients' credibility in the eyes of clients, colleagues, and employers alike. In some cases, public recognition through company announcements, helped elevate their professional standing and opened doors to new opportunities.

“It provided me with credibility of my standing as an engineer... my peers had considered my competence, knowledge, skills and experience as worthy of recognition.”

Career progression through visibility

The award gave recipients a powerful sense of visibility across the engineering sector, often unlocking new roles and opportunities they hadn't previously considered. For those who came into engineering through non-traditional academic routes, it offered something deeper: recognition, legitimacy, and a sense of belonging in a profession where they'd sometimes felt like outsiders.

“It cemented my place as an engineer and has acted as an anchor point in my career. It opened the door for future roles...”

“Winning the award gave me the legitimacy to claim my identity as an engineer and to feel like my contribution was valued.”

The Karen Burt Memorial Award has proven to be a powerful accelerator for career progression. Several recipients described how the recognition led directly to promotions and expanded responsibilities.

“Receiving the Karen Burt Award was a welcome boost to my early career, providing me with visibility in the sector.”

Beyond formal advancement, the award also served as a signal of competence and credibility. In some cases, it boosted internal reputation and gave employers the additional confidence to invest in a recipient's potential. Even when the award wasn't directly linked to a specific opportunity, its presence reinforced professional standing and helped shift perceptions, especially in environments where recognition had previously been limited.

Sectoral impact through advocacy

Several recipients described how the award deepened their commitment to mentoring others and championing inclusion in engineering, with more than one respondent clearly articulating how the award helped shape a dual identity as an engineer and an agent of powerful change.

“Above all, this award has deepened my existing commitment to mentoring women and underrepresented engineers entering the profession.”

“It validated my technical excellence and inspired me to further champion diversity and inclusion in engineering.”

“The recognition helped articulate a clearer sense of identity as both a technical expert and a change agent - someone who not only delivers complex energy solutions but also fosters a more equitable profession.”

Belonging through community

As well as recognise individual achievements, the Karen Burt Award has also created a bridge into a vibrant, affirming community. For many recipients it fostered a deep sense of belonging and connection to a wider network of inspirational women in engineering. The external visibility that came with the award often reshaped how recipients saw themselves within the profession, ultimately boosting their confidence.

“exposure and networking opportunities with a wider group of industry professionals and greater visibility of role models... [made me feel part of] a special group of inspirational women.”

This sense of community often extended beyond the award ceremony. It led to lasting relationships and peer mentorship. Recipients found themselves surrounded by others who understood the challenges of navigating technical excellence and leadership in a sector where women are still underrepresented. The award helped carve out a space where their contributions were not only celebrated but connected: woven into a collective story of progress, visibility, and mutual support.

What opportunities or connections emerged following the award?

Karen Burt Award winners often go on to enjoy promotions, speaking opportunities, and leadership roles. The award not only recognises exceptional talent but also boosts confidence and professional visibility - something consistently reflected in alumnae testimonials.

Public platforms on equity in engineering

The Karen Burt Memorial Award often served as a springboard into public advocacy and outreach, with several recipients invited to speak at high-profile events and lead conversations around inclusion in engineering. These opportunities ranged from addressing student-led societies focused on gender equality, to participating in STEM-focused panels and internal company events. For many, the award elevated their visibility and positioned them as credible voices on diversity, career progression, and the lived experience of women in engineering. These platforms not only amplified their personal stories but also allowed them to inspire the next generation on how to bridge technical excellence with inclusive leadership.

Community connections

The Karen Burt Award has helped recipients build stronger ties across the engineering community. For many, it sparked mentoring relationships which were often initiated by early-career engineers inspired by the award's visibility. These connections grew into lasting support networks, with recipients becoming mentors and advocates for inclusive leadership.

“It helped me connect to many other wonderful female engineers and grow my network in areas I would not have been able to without winning the award.”

The award opened doors to leadership, including roles within WES, where recipients helped shape strategy and amplify women's voices. It also expanded networks across disciplines and regions, enriching careers and reinforcing a shared commitment to visibility and sectoral change. For some, it marked the start of a career shaped by advocacy and education.

“After having children, I decided to promote engineering and science by becoming a Graduate Centre manager... Later became a primary school teacher. [I] still talk to children about careers in industry and how exciting they can be.”

Did professional registration play a role in how you've shaped your career since winning the award?

The responses to this question show a clear trend: for the vast majority of Karen Burt Award recipients, professional registration has been a meaningful driver of career development.

85% of respondents indicated that professional registration (Chartered status) has played a significant role in shaping their career trajectories. This suggests that the award not only celebrates achievement but reinforces the value of professional accreditation as a foundation for growth, credibility, and leadership.

These responses reinforce part of Award's original purpose: to encourage women to pursue professional registration and to then celebrate that achievement publicly to encourage others.

Have you received other recognitions or awards since winning the Karen Burt Award?

Many Karen Burt Award recipients have gone on to receive widespread recognition across sectors - spanning academia, leadership and innovation - reflecting not only individual excellence but also the breadth of impact that the Karen Burt Award winners go on to make.

- Academia**
- Lord Dearing Award for teaching and learning, University of Nottingham
 - EPSRC Challenge Fellowship awarded upon transition into academia
 - Honorary Doctorate from University of Vaasa
-

- Leadership**
- Top 50 Women in Sustainability
 - 100 Brilliant Women in Renewable Energy
 - Director of the Year, Edinburgh Chamber of Commerce
 - ICE Eloise Plunkett Award
 - CIHT Young Transportation Professional
 - IEEE PES Outstanding Volunteer Award
-

- Innovation**
- SPE Innovative Programming Award
 - Management Today Future Leaders
 - Energy Institute Award of Council

Have you contributed to sector-level policy, standards, or governance work?

Karen Burt Award winners have influenced everything from energy strategy and infrastructure policy to equity and governance. While not all have engaged in this space, many have shaped the profession's future through roles on technical panels, policy groups, and institutional boards.

For these recipients, the award often served as a gateway to amplifying their credibility and opening doors to long-term leadership in engineering standards and national policy.

“Working within the National Energy System Operator (NESO)... I’ve contributed to the Future Energy Scenarios publication, which shapes key messages and recommendations for the UK’s energy network infrastructure, energy policy, electricity markets and flexibility.”

“At Arup, I led the energy business in Scotland... working directly with government agencies and regulators to shape policy and regulatory frameworks for the renewables sector.”

“I serve as a Non-Executive Board Director at Scottish Renewables... contributing to policy development that supports the growth and sustainability of the sector.”

These roles and trajectories reflect the award's deeper impact: to celebrate excellence that positions recipients to influence the systems, standards, and strategies that define the sector.

Karen Burt winners also have a clear breadth of technical leadership, which has been brought to bear through contributions to standards and governance spanning civil infrastructure, defence, water systems, and tunnelling.

6. Reflections on Advocacy and Legacy from the Alumnae Survey

What did receiving the award mean to you personally?

The responses to this question reveal a deeply personal and affirming impact. For many recipients, the Karen Burt Memorial Award was not only a professional milestone but a moment of validation and emotional resonance. It affirmed their identity as engineers, amplified their voices, and inspired them to lead with purpose.

Confidence and pride

Across the board, recipients described the award as a powerful boost to their confidence and a source of pride in their achievements. For some, it marked the first time their technical contributions had been publicly recognised.

“Aside from being, to this day, the best surprise I’ve ever had! It gave me confidence and validation to occupy space - from day-to-day meetings to decision making on high-profile projects.”

For those navigating non-traditional routes or working in smaller communities, the award offered legitimacy and belonging:

“Immensely humbled to win the award - being from Northern Ireland and working within a small engineering community, I was surprised to be able to compete with women working on more prestigious projects.”

Professional identity

Several respondents reflected on how the award validated their technical expertise and reinforced their identity as engineers, which was particularly meaningful in male-dominated or policy-heavy environments.

“Receiving my Chartered Engineering (CEng) qualification was a great personal achievement, and then being further recognised nationally by the Karen Burt Award was further validation.”

“It was enormously important to my confidence and sense of identity... I hadn’t considered that my contribution was exceptional or warranted celebration, so was absolutely thrilled.”

One respondent beautifully captured the emotional weight of peer recognition:

“It was an immeasurable privilege... to have others who do not know me judge that I am worthy of the award is truly humbling.”

Personal milestones

The award also intersected with personal life moments, highlighting the human side of professional achievement:

“I received the award whilst on maternity leave and giving my presentation with my newborn in the room will always be one of my treasured memories of work/life balance!”

Continuing Karen's sectoral legacy

The Karen Burt Memorial Award has become a catalyst for advocacy. For many recipients, it marked a turning point that transformed quiet contributors into vocal champions for inclusion and sectoral change. The recognition boosted confidence, inspired mentorship, and encouraged recipients to challenge structural barriers.

“It gave me a platform to speak openly about gender balance and inclusive leadership... The award didn't just celebrate where I'd been - it helped me see where I could go.”

This sense of purpose translated into action: mentoring, leading DEI initiatives, shaping policy, and amplifying others. The award validates excellence and empowers recipients to make engineering more equitable and welcoming.

How has the award shaped your views on gender equity in engineering?

Responses reveal a deepened awareness and renewed commitment to gender equity in engineering. For many, the Karen Burt Award highlighted gaps in representation and amplified their voice as advocates. Several recipients said it sharpened their understanding of systemic challenges and the power of visibility.

“It still highlights the challenges when trying to achieve gender equity... I am still acutely aware of the lack of visible female role models in very senior positions.”

Many recipients described how the award strengthened their commitment to advocacy and mentoring, especially for women and underrepresented groups in engineering.

“The award highlighted the importance of sponsors and mentors for women in engineering.”

“Winning the Karen Burt Memorial Award reminded me that recognition matters... I didn't just want to be a role model - I wanted to be an advocate.”

One respondent linked gender equity directly to engineering's broader mission:

“We won't solve [climate change and infrastructure resilience] with narrow thinking or homogenous teams... I firmly believe we need diversity to tackle these huge societal challenges.”

Several respondents have gone on to lead gender equity initiatives within their organisations, using the award as a springboard for structural impact and taking on roles that reflect a shift from personal recognition to institutional influence:

“I helped launch and chaired through its first year an innovative 'Working Parents Group'... which was the recipient of a business culture award.”

“I hold many relevant volunteering roles... including Event Lead of the Women's Network”

For many recipients, the Karen Burt Award brought both recognition and a sense of responsibility. Visibility as a woman in engineering became a platform for leadership and authenticity. Some reflected on the award as a turning point, embracing their role as mentors, sharing personal stories, and advocating for inclusive practices. The award signalled to others that success in engineering welcomes the personal and thrives on it.

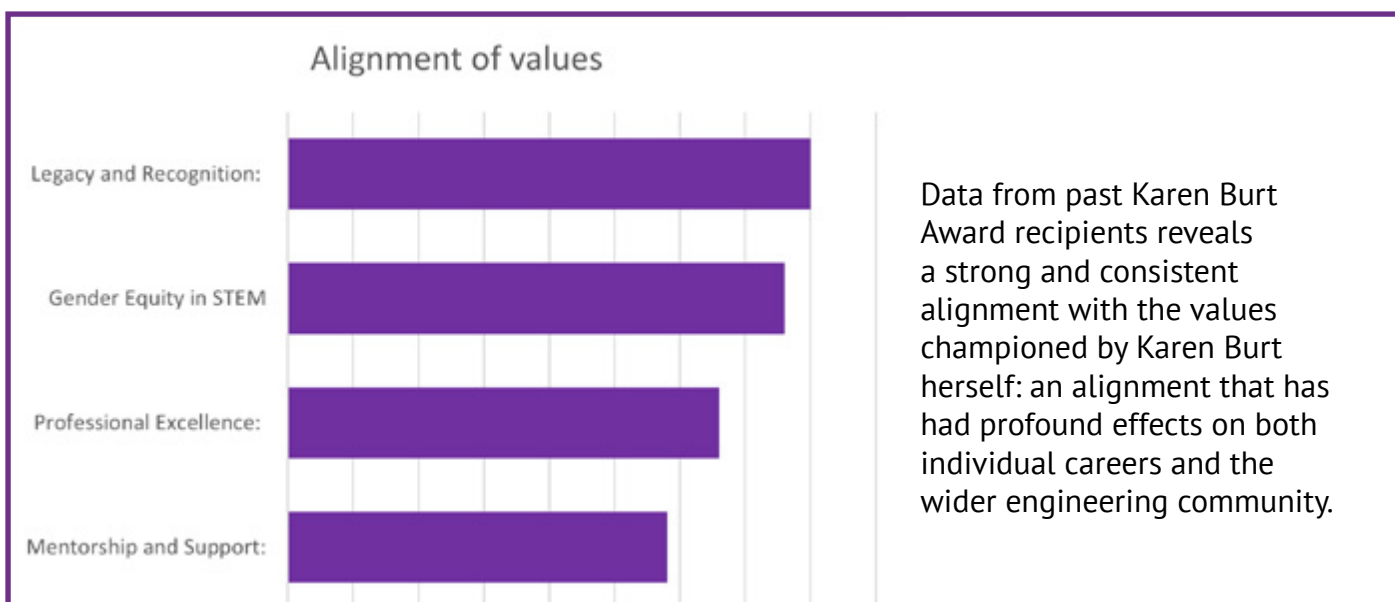
Can you share a moment where you felt your visibility or voice was amplified because of the award?

The award has helped women engineers gain credibility and recognition in spaces where their voices were often overlooked. Many recipients describe a shift in how they're perceived, becoming seen as authoritative professionals, invited into leadership conversations, and offered new opportunities.

For some, it's been a form of professional armour, validating their Chartered status and strengthening their influence. It's also opened doors to public speaking, sector-wide recognition, and DEI leadership. In many careers, the award becomes a lasting thread that boosts confidence, shapes leadership, and embeds gender equity into practice.

“The recognition gave me permission to speak with confidence, to challenge norms, and to advocate for change... It's helped me bring gender equity into the heart of technical strategy, not as an add-on but as a core principle... Engineering isn't just about solving problems - it's about who gets to solve them.”

Which of Karen Burt's values do you feel most aligned with?



Together, these themes demonstrate that the impact of the Karen Burt Award goes beyond recognition of past achievement, and is a launchpad for sustained leadership, systemic impact, and generational change in engineering.

How did you use the prize money?

While the Karen Burt Award honours professional excellence, the prize money offers a rare moment of personal agency. Many recipients used it for professional development by funding further training or international networking. Others chose something symbolic, like jewellery or a bicycle, as a lasting reminder of recognition. Some used it to support family life, easing the balance between career and caregiving.

These choices reflect the diversity of women's lives in engineering and how the award empowers recipients to invest in themselves and their communities.

7. Recommendations

The Karen Burt Memorial Award is a cornerstone of WES's mission to champion women's careers in engineering. By recognising newly chartered women engineers across all Professional Engineering Institutions, it affirms technical excellence, celebrates role models, and strengthens retention at a critical career stage. The award also aligns with national strategies for inclusive growth and innovation, spotlighting diverse talent and supporting the pipeline of future leaders. The following recommendations outline how WES can build on this legacy to broaden impact and ensure strategic alignment with both industry and long-term organisational goals

1. ***We aim to expand alumnae engagement*** in ways that build on the individual success of the alumnae shared in this report to bring impact to the women coming up behind them:
 - connect past winners with emerging talent via technical talks and mentoring for support during professional registration
 - connect past winners to policy platforms for WES's voice on industry consultations that impact women and their lives as engineers
 - connect past winners to platforms that showcase them as role models, or agents of change in engineering leadership
2. ***We aim to work better with all Professional Engineering Institutions*** to amplify the award's profile, not least through continuing to nominate outstanding candidates that represent the very best of their discipline or industry, in order to support the growth of women's representation and success in their discipline or industry.
3. ***We will continue to build out strong relationships with partners, sponsors, and supporters*** so that we can get the broadest of engineering communities to join us in sustaining this vital recognition platform that not only honours individual achievement but drives systemic change across engineering.

Acknowledgements

With deep appreciation, we recognise the individuals and organisations whose contributions have sustained and enriched the Karen Burt Memorial Award.

- ***To Cyril Hilsum, David Burt, Lindsey Hilsum and Alex Burt***, whose vision and generosity continue to honour Karen's legacy and inspire future generations of engineers.
- ***To the Engineering Council, Royal Academy of Engineering and participating Professional Engineering Institutions***, whose general support and nominations uphold the award's sector-wide reach and credibility.
- ***To the dedicated WES volunteers and staff***, whose care and commitment ensure the award's continued excellence and impact.
- ***To BAESystems*** for their research support and for sponsoring the printing of this report
- ***To the alumnae*** who generously shared their reflections, helping us capture the lived experience, influence, and enduring value of the award.
- ***Also to Karen***, whose dedication to engineering excellence and gender equity continues to inspire this award and the community it celebrates.

Together, you have shaped a legacy across the engineering profession, and we are incredibly grateful.

It seems fitting to conclude the report by paraphrasing Cyril's words: individually, the winners have already achieved much. As a united body, we can do even more.

Stand up and be counted

Richard Baum meets Dr Karen Burt, engineer, mother and fighter for women's rights at work.

There is a story about a female engineer who suffered a miscarriage and found subsequently that she was not being considered for training or promotion. The reason was as cruel as it is predictable: her bosses assumed she would soon be pregnant again and demanding maternity leave.

It is an extreme and uncommon case of prejudice, and may be little more than folklore, but it illustrates a point. However equal the opportunities for men and women are in engineering, women will always face the conflicting demands of children and career.

Dr Karen Burt is a distinguished engineer who has found time for both and has become in the process, she admits reluctantly, an expert on career breaks. For most of the past 10 years she has worked for British Aerospace Space Systems, leading and working on high level projects for, among others, the European Space Agency.

The problems of designing satellites, however, were a world apart from the challenges involved in interrupting a career to have a child. As she and the company discovered, it was not simply a question of 11 weeks' leave before birth and five months after.

"Nobody quite knew what we ought to be doing. Everyone had all the DHSS papers about the rules and regulations but the company had never actually had to deal with it," she said. "People's first instinct was to say 'You go off and take your maternity leave and then come back and just start working again.' I said I didn't want to do that. I wanted to come back in some more flexible way so I could give my son the attention I felt he was going to need and which I wanted to give him."

In the end the company agreed to an experiment: she would work four days a week, from ten to four o'clock. But even this proved taxing.

"It was incredibly hard work. I don't think I have ever been so tired. As it happens, I was not at all well after my son was born and working those short days was more tiring than anything I have ever done." After four months, though, she felt able to work four full days a week, a routine she has kept up for more than two years.

The organisation of the break and subsequent return to work was a success, but Dr Burt felt here were probably too many women and employers who

didn't know how to handle maternity leave. "I started trying to find out what companies were offering and discovered it was just a bit of a shambles," she said. "I wrote to companies that were members of the Women's Engineering Society (WES) and got a great range of replies."

"One thing that came out is that there isn't a clear way in which career break issues are being addressed. An awful lot of companies are doing things on an ad hoc basis, which may be sensible when you're talking about small numbers. Other organisations like British Rail and the BBC have got a very tidy structure."

What she would like to see is companies telling staff that they are open to suggestion and willing to experiment. "The better schemes say you can work part time or work from home or you can have a longer period of maternity leave. They tend to be flexible," she said.

"Some companies are starting to touch on whether they should provide some sort of creche facility, but that's still a little bit further down the line. With the demographic changes coming I think that it is one way many companies will find it useful to proceed along. After all, there may only be a few mothers on site, but there are lots and lots of fathers. Maybe they need to use creche facilities!"

And fathers, she says, should also consider working part time as well as, or even instead of, the mother.

In lieu of a creche, Dr Burt employs a live-in nanny, unlike most of her colleagues who take their children to kinders. BAE, like many companies, makes no financial contribution to childminding, but nannies could also enjoy renewed popularity if the government accepts proposals made last week for tax concessions on child care.

"One of the most serious concerns is that women feel that if they start talking about their plans to have a family it will be assumed she's going to go off and have a family in the next six months, the management will say there's no point in promoting or training her."

With the responsibilities of a child and a career it is perhaps remarkable that Dr Burt found time to do so much work on career breaks. Yet she is also very active in the WES as a member of the national council and chairman (sic) of the London branch



Dr Karen Burt: "It is important to stand up and be counted."

Qualifications

A level — pure maths, applied maths, physics
S level — physics
PhD — The electron microscopy of diamond

Career

1980 Joined British Aerospace as a project engineer in the Scientific Satellite Project Office. Work included studies of X-ray detectors and high accuracy accelerometers, contributing to BAE's bids to the European Space Agency for the X-80 and Popsal Phase A studies.

1981 Joined the Technical University of Delft as a research scientist responsible for the design, manufacture and testing of an X-ray monochromator and a cod star sensor for space use. Following this short-term contract, returned to BAE as the payload manager for the bid and Phase A study of Magellan, an ultraviolet spectrometer spacecraft, for ESA.

1983 Appointed senior systems engineer and since then has managed several studies including:

- Universe continuation study for the Science and Engineering Research Council, examining the use of a new space segment for satellite data links for intercomputer communications.
- Sun-pointing spacecraft study for ESA.

Also held systems positions on two major BAE programmes:

- Assistant systems manager on the Inmarsat second generation bid, including launch vehicle selection and spacecraft configuration studies. Also prepared the ground segment and interface specifications for the lease contract proposals.
- Assistant project manager (systems) for system engineering studies on future advanced Skyenet military programmes.

1987 On returning to BAE following a short period of maternity leave, appointed to lead the company's work on the design of the planned European data relay satellite system, work which is still continuing.

Special studies

Representative of Institute of Physics on the papers sub-committee of the ICWES9 organising committee.

Representative of WES on the IOP working party producing a career break fact pack for employers.

Representative of WES to the Women Returners Network.



"I have begun to feel it is important to stand up and be counted," she said. "In the early stages of my career and certainly through my education I didn't come across anything you could call discrimination." But when she went to Holland, after working in the UK for a year, she was "astonished and appalled" by the attitudes she came across.

"It was said to me in very straightforward terms on many occasions: 'you can't be an engineer, you're a woman' — which I hadn't expected. My husband was also working in Holland in a hospital where a lot of the aestheticians were women of my age. Presumably they had been good at sciences at school, but when I talked to them they had no idea what engineering was about."

"It was obviously something that was not a possibility there. That was the first time it was really brought home to me that people were having more difficulties than I saw."

Dr Burt has come across the 'you can't be an engineer' attitude only very occasionally in this country and so she sees the role of WES not as an organisation to change the attitude of employers but rather to offer support and advice.

"We get questions about issues such as family responsibilities, promotion and training," she said. "One thing that women are criticised for is not putting themselves forward for training, for not making it clear that they do have strong career ambitions. People are becoming

more aware of that, but it's an area where there is still work to be done."

WES also aims to promote engineering as a career. One promotional device the industry lacks, she feels, is a role model. Nurses can point to Florence Nightingale and some women might be encouraged to go into politics by Margaret Thatcher, but who do budding female engineers have?

"There are very few women in senior positions in British industry in general and therefore there are few role models. It will have an effect when the first woman director is appointed, but it is something that will take time to come," said Dr Burt.

"We do have people who would make good role models but they're all so busy with their jobs and with bringing up their families that it's very difficult to make time to go into schools. That is something companies must provide more positive help with."

Some companies, however, seem determined to frustrate women's ambitions.

"Electronics Times gave its Personality of the Year award to Tina Knight who has been quoted as saying, and I hope she was misquoted, that she wouldn't employ women because they were too liable to go off and have babies and take maternity leave," said Dr Burt. "You certainly can find examples of employers who are not in the least bit positive towards women, and they're not all men."

