



**Engineering X wants to  
identify champions for safer  
end of engineered life and  
support them to make a  
difference**



# Contents

## **Introduction & objectives**

## **What is a SEEL Champion?**

*Examples and challenge areas*

## **What will we do?**

*Benefits, support package and programme overview*

## **How to apply**

*Application process, timeline and eligibility criteria*

## **Who are we?**

*Programme background and funders*



# Call for Safer End of Engineered Life (SEEL) Champions

We believe that whenever anything is built, the end of life must be planned for in order to prevent harm to human health and the environment.

We want to **identify** and **connect** individuals and organisations already championing **safety** at end of engineered life in their work, and support them in making **greater impact globally**.



# Objectives

We aim to **identify** and **connect** champions working in safer end of engineered life to **bring attention** to the risks they raise and **network** them with potential supporters and advocates, as well as creating peer-to-peer **learning opportunities**.

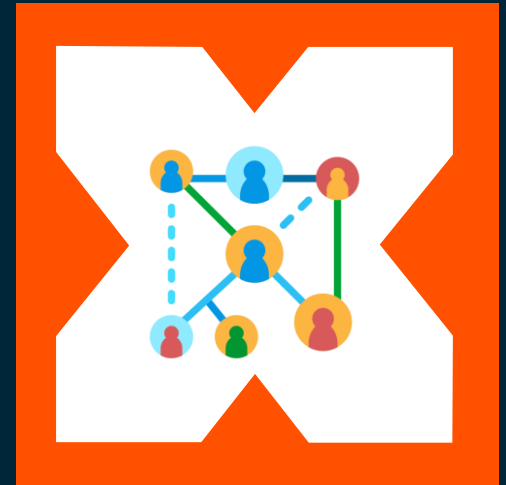
Our objectives are:



To **identify** experts and practitioners working on improving safety at end of engineered life globally.



To **bring attention** to issues at end of engineered life with the potential to cause significant harm if left unaddressed.



To **connect and build** a diverse global stakeholder community with the **potential to address** these safety issues through high impact interventions.





**“The disposal and decommissioning of engineered products and structures can be dangerous, especially as risks are often displaced to places least able to manage them.**

**We want to identify champions of safer, sustainable practices and support them to make a difference.”**

**Professor William Powrie FEng  
Chair, Safer End of Engineered Life  
programme**





**What is a  
SEEL Champion?  
Examples and challenge  
areas**

# Who are we looking for?

We want to identify **passionate individuals** or **organisations** who are already working on an urgent challenge relating to safety at end of engineered life who have the **capacity to affect wider change**. They will be **committed** to championing safer end of engineered life principles and the SEEL programme, and would benefit from our support to improve their **visibility** and **impact**.

Safety at end of engineered life must be considered in all areas. We therefore welcome applications from all **industries** and **sectors globally**. This call is not limited to engineers as we recognise the need for **multidisciplinary collaboration** to address these challenges.





# What does **unsafe** end of engineered life look like?



Asbestos is a long-standing and well-known hazard that continues to represent a threat to **construction and demolition** workers throughout the world. Despite being banned in most countries, exposure to asbestos particles is thought to claim the lives of a quarter of a million people every year.



**Electronic waste** is the world's fastest growing waste stream with estimates of around 50 million metric tonnes of electronic products being discarded every year. Much of it is handled unsafely, damaging the environment and human health, while squandering finite resources. Common practice in lower- and middle- income countries includes the burning of PVC insulation from cables to recover copper, releasing carcinogenic fumes.



In 2020 more than 70% of the world's **end of life ships** landed up on beaches in South Asia for decommissioning. The vessels are broken down by hand, causing immense harm to the workers, who are often exploited untrained migrants, and to local communities and the environment.



# Who are examples of SEEL Champions having impact?

This programme would consider the following stakeholders to be good examples of SEEL Champions:



**Syeda Rizwana Hasan** is a lawyer and executive director of the Bangladesh Environmental Lawyers Association (BELA), a public interest law firm. She has particularly focused on regulations for the ship breaking industry in Bangladesh, and was awarded the Goldman Environmental Prize in 2009. Hasan continues to strive for more labour rights and a safer working environment in the industry.



**Dr Costas Velis** is a Lecturer in Resource Efficiency Systems at the School of Civil Engineering (SoCE), University of Leeds and the lead author of the *Global Review of Safer End of Engineered Life*. A materials engineer by training, his academic work focuses on sustainable circular economy and he has led major research programmes and advises policymakers on value creation from better solid waste management in the Global South.



**Women in Informal Employment: Globalizing and Organizing (WIEGO)** is a global network focused on empowering the working poor, especially women, in the informal economy to secure their livelihoods. By building networks and capacity among informal recycling organisations, WIEGO influences local, national and international policy to improve safety.



**Crispian Lao** is the Vice Chairman of the National Solid Waste Management Commission under the Office of the President, Republic of the Philippines. He is a strong advocate for the environment and safety through proper waste management and the development of enabling policies to promote appropriate, technologically and economically viable investments and support SMEs in the Philippines.



*These are examples and we welcome applications from all disciplines, industries, sectors and levels of seniority, as well as both individuals and organisations.*

# Challenge areas

We welcome applications from **all** areas related to safety at end of engineered life. Examples of themes might include but are not limited to:

1. Design for de-manufacture / circular design
2. Medical / testing and laboratory waste / PPE
3. Renewable energy infrastructure and devices
4. Electronic waste
5. Fibre reinforced plastics / composites

Challenges may pertain not only to types of materials or sectors, but also relate to movements of people that promote safety e.g. regulators, trade unions, trade associations.

**All challenges must link to safety.** You may not have considered this link before so we encourage you to think of the safety implications of your work.



# Global Review on Safer End of Engineered Life

Launched in January 2021, this Global Review examined what happens to consumer goods and other engineered products at the end of their useful life. It identified the immense harm caused by **uncontrolled burning** and **dumping of waste** worldwide.

7 appendices underpin the report and look at categories of engineered materials. These were **plastic, medical, electronic, construction and demolition waste**. Methods of **land disposal** were also investigated.

Applicants are asked to highlight in their application if their work addresses any of the priority areas and recommendations identified in the Review or link to any of its appendices.

[Access the report and appendices here](#)

Engineering 

Global Review on Safer  
End of Engineered Life



 Royal Academy  
of Engineering

 Lloyd's Register  
Foundation

# **What will we do?**

**Benefits, support  
package and  
programme overview**

**We intend to hear your ideas and work with Champions to build a package of support that includes networking, communication and potentially resource support which improves safety and affects positive systemic change on the end of engineered life issues highlighted.**

**Support may include:**

**Networking:**

- Peer-to-peer learning and linking with global experts
- Targeted networking with decision makers and influential voices
- Links to other Engineering X programme networks

**Communication:**

- Leveraging the Academy and Lloyd's Register Foundation's influential networks
- Creating case studies and sharing stories to bring attention to issues

**Resources:**

- Direct small grant funding from Engineering X
- Links with schemes from other funders and partners in the Champions community



**Networking  
Learning  
Communicating**

# Programme Overview

## Phase 1

SEEL  
Champions  
recruitment

**Mar - Jul  
2021**

## Phase 2

Support package  
design with  
Engineering X team

**Sep - Dec 2021**

## Phase 3

1 year support and  
beyond  
Networking, communication  
and resource support

After 1 year champion status will  
be reviewed and future cohorts  
recruited

**Jan - Dec 2022**

**Ongoing activities:** Case study development, promotion through our networks (Engineering X, Academy, LRF) and platform use, events and speaker opportunities, Champion Network calls and events, including workshops



*Please note that this is a pilot programme with the scope to evolve as we progress and as Champions feed in what would be useful to them.*



**Become part of an exciting global network of experts working to improve safety at end of engineered life**







# **How to apply**

**Application process,  
timeline and eligibility  
criteria**

# Submitting your application

All applications must be submitted via the Academy's online **Grants Management System**

[grants.raeng.org.uk](https://grants.raeng.org.uk)

Applicants will be asked to first register with the system and provide some basic log-in details to create a profile.

Full details of the application form and assessment process can be found [here](#).

Please ensure that you have read this guidance before beginning your application.



# Application timeline



# Eligibility criteria

1. Applications are welcome from all countries globally
2. Applications are welcome from all disciplines, industries and sectors
3. Applications are welcome from individuals and organisations
4. Applicants are already working on an urgent challenge relating to safety at end of engineered life
5. The individual or organisation must have 3 – 5 years' experience in their area
6. Applicants must provide one letter of support or reference from your manager, head of department/organisation or other relevant parties (with no conflict of interest)



# Diversity and inclusion

We are committed to diversity and inclusion and **welcome applications from all underrepresented groups**. It is the Academy's policy to ensure that no applicant is disadvantaged or receives less favourable treatment because of age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, gender and sexual orientation.

For more information, please visit:

[raeng.org.uk/publications/other/academy-diversity-policy](https://raeng.org.uk/publications/other/academy-diversity-policy)

Before you begin your application, you will be asked a few diversity monitoring questions. The answers will not be visible to the reviewers and will not impact your chances of having your application selected. You will need to complete the diversity monitoring section before you can see the grant application form, but can choose “prefer not to say” as responses.





# **Who are we?**

**Programme background  
and funders**

# Engineering X Safer End of Engineered Life programme

The decommissioning, dismantling and disposal of products and structures at the end of their life can damage the environment and squander scarce resources if not carried out responsibly. These processes can also be dangerous and harmful, especially as the waste and processes in question are often displaced to parts of the world least able to manage them safely.

The **Engineering X Safer End of Engineered Life programme** (£5million, 5 years) seeks to address these challenges and **improve safety** globally by: understanding and applying practical interventions; building diverse international communities to share evidence, knowledge, and good practice; and raising awareness and a broader understanding of the global challenges of dealing safely and ethically with the billions of tonnes of end-of-life materials, artefacts and structures that humanity produces each year.



# Our work so far to improve safety at end of engineered life



## Improving safety in the decommissioning of offshore structures and ships

In 2019 we convened a global, multidisciplinary, cross sector **workshop** of experts to map fundamental safety challenges in the area, and develop impactful ways to address them.

We now have **6 projects** in progress to tackle these complex social, environmental and engineering challenges. Further workshops, funding calls and sector events are planned as we seek to affect wider industry change.



[More information here](#)

© Studio Fasching





## Global Review on Safer End of Engineered

To inform the programme's next focus, we commissioned the Global Review on Safer End of Engineered Life. What became clear was that our efforts should be centred not on the types of materials and products – as for ships and offshore structures – but the processes employed at their end of life.

The research identified the harm caused by uncontrolled burning and dumping worldwide, particularly for those most exposed in the informal recycling sector. It is estimated that one person dies every 30 seconds in lower- and middle- income countries due to the mismanagement of waste and open burning.

### Open burning of waste

SEEL now seeks to raise this dangerous issue on the agenda and catalyse global action. We began by convening 2 workshops of 100+ diverse participants to gather knowledge, inform the programme design and facilitate the creation of a community of practice.

We are now developing our strategy, including a grants programme, and building key partnerships to take this work forward, including:



© WasteAid



**Engineering X** is an international collaboration, founded by the **Royal Academy of Engineering** and **Lloyd's Register Foundation**, that brings together some of the world's leading problem-solvers to address the great challenges of our age.

Our global network of expert engineers, academics and business leaders are working in partnership to share best practice, explore new technologies, educate and train the next generation of engineers, build capacity, improve safety and deliver impact.



**Expert Global  
Network**

# Engineering X has 4 other missions:

## Transforming Systems through Partnership

To solve today's most pressing development and sustainability challenges, academics need to work with industry, government and the public to build trust, design appropriate solutions and scale their uptake. Working in partnership with innovation agencies, this programme will build engineering teaching, research and innovation capacity within seven partner countries' universities to collaborate with local stakeholders and UK academics in meeting local development challenges.

## Safer Complex Systems

We live in a world where the critical infrastructure we depend on is made up of increasingly complex interconnected systems. Our safety is endangered when localised issues result in wider, often unanticipated consequences. This programme develops and implements practical solutions to improve the safety of complex systems.

## Engineering Skills where they are most needed

Population growth in emerging economies is driving huge investment in critical infrastructure. However, a skills gap that is exacerbated by a reliance on multinational organisations and temporary, non-domestic workforces is limiting capability to operate and maintain such infrastructure safely. This programme implements capacity-building programmes to address these needs.

## Pandemic Preparedness

This programme is supporting the UK and global engineering community to learn from the current COVID-19 pandemic through global sharing of lessons on best practice approaches in the prevention, preparedness, response and recovery from pandemics.



# Our Founders



**The Royal Academy of Engineering** is harnessing the power of engineering to build a sustainable society and an inclusive economy that works for everyone.

In collaboration with our Fellows and partners, we're growing talent and developing skills for the future, driving innovation and building global partnerships, and influencing policy and engaging the public.

Together we're working to tackle the greatest challenges of our age.

[raeng.org.uk](http://raeng.org.uk)



**Lloyd's Register Foundation** is an independent global charity that supports research, innovation, and education to make the world a safer place.

Our vision is to be known worldwide as a leading supporter of engineering-related research, training and education that makes a real difference in improving the safety of the critical infrastructure on which modern society relies. In support of this, we promote scientific excellence and act as a catalyst working with others to achieve maximum impact. disciplines.

[lrfoundation.org.uk](http://lrfoundation.org.uk)

**Thank you for your interest in this call.  
For any questions or queries, please  
contact:**

**Hazel Ingham, Safer End of Engineered Life  
Programme Manager  
[hazel.ingham@raeng.org.uk](mailto:hazel.ingham@raeng.org.uk)**





**Bringing  
global  
experts  
together to  
engineer  
change**

