ice
Institution of Civil Engineers

# The home of infrastructure

**2030 Strategy**

ice.org.uk










# Foreword

*Infrastructure plays a vital role in everyone's lives. People across the world depend on water, energy, sanitation, social and digital infrastructure to meet their basic needs and improve their lives.*

Infrastructure impacts the environment which contributes to the growing climate and nature emergencies. Engineering professionals must cut carbon emissions and adapt infrastructure to improve resilience.

Public confidence is paramount. Safe design and safe construction processes are crucial, as is the need to properly maintain the world's ageing infrastructure. Engineering professionals are expected to deliver infrastructure reliably, efficiently, on time and on budget.

Technology is disrupting every part of infrastructure. Building Information Modelling, Artificial Intelligence, digital twins and the Internet of Things have already transformed how we work. More, rapid change is coming with the integration of the cyber and physical worlds. The profession needs to embrace and lead this transformation and use it ethically, and for the benefit of society.

This strategy sets direction for the next five years. As the home of infrastructure, the Institution of Civil Engineers will continue to:

- Lead the debate about sustainable infrastructure and champion the case for decarbonisation, resilience and nature positive solutions.
- Inspire public confidence that infrastructure is safe, functional and efficiently delivered.
- Harness technological change to grow a capable, innovative and trustworthy profession.

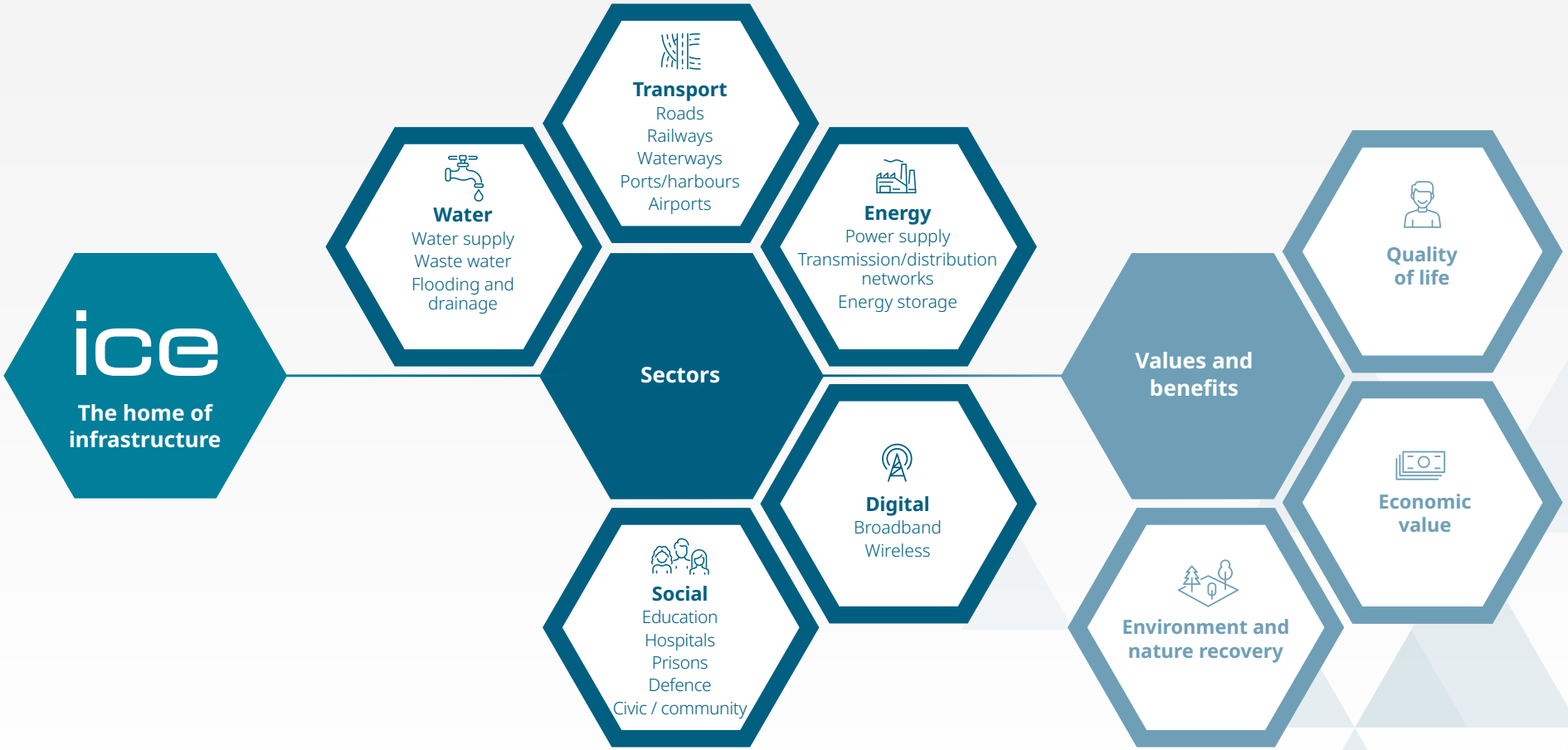
*This strategy is built upon the expertise of the 97,000 members of the Institution of Civil Engineers. We are dedicated to improving the quality of life for people globally, while safeguarding the natural environment, and we are committed to advancing engineering knowledge for the benefit of societies around the world.*

**Professor Jim W Hall FREng FRS,**
President of the Institution of Civil Engineers 2024-25

**Dr Janet Young CBE,**
Director General & Secretary of the Institution of Civil Engineers

# This is infrastructure

*Infrastructure is vital. People across the world depend on water and energy, sanitation, transportation, digital communications, schools, hospitals and open spaces. These are all essential to our most basic needs and to improving lives. Engineering professionals are creative problem solvers. They work in harmony with the natural environment to keep towns and cities running and to build a more sustainable world.*



# Who we are

*We are the home of infrastructure. Since our foundation in 1818, ICE's members have delivered infrastructure for society across the world. Receiving our Royal Charter in 1828, we are an established charity with the object to foster and promote the art and science of civil engineering. We are proud of our 207-year body of knowledge, our 97,000 members worldwide and our enduring commitment to innovative solutions to one of the greatest challenges facing the world: how to deliver the infrastructure that society needs while enabling the planet and people to thrive.*

## Where we have come from

The ICE's 2020 strategy was centred around the United Nations (UN) Sustainable Development Goals (SDGs). They were the golden thread running through our activities.

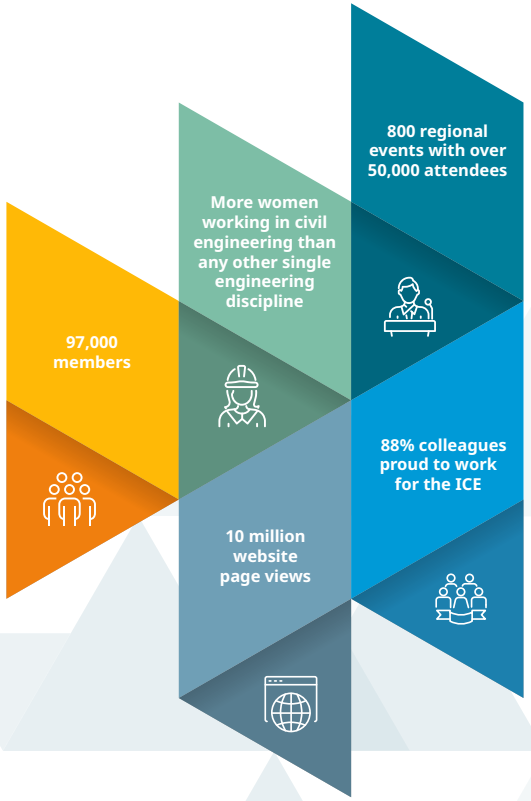
From engagement with schools and colleges to university syllabus accreditation and professional reviews, the UN SDGs were front of mind. They became the focus of our Continuing Professional Development (CPD); and were the impetus for the establishment of dual accreditation of Chartered Environmentalist alongside ICE professional qualifications.

We championed the update of the carbon management standard, PAS 2080, to include infrastructure for the first time, and initiated research in low carbon concrete and sustainable urban drainage systems.

We centred the ICE's strategic infrastructure planning principles around the UN SDGs and have shared this programme globally with partners and nations. And the ICE developed its first Carbon Management Plan for its own operations.

This compelling strategy, with focus on the SDGs, drove the ICE's success. We are proud as a Professional Engineering Institution to have recorded growth in registered members every year for the last ten years. As we refresh our long-term strategy and consider priorities for 2026-2030, our commitment to sustainable infrastructure and practices remains resolute.

## Where we are now



# The challenges ahead

*There are many challenges ahead facing the sector and society: geopolitical and economic instability, a worsening climate and nature emergency, changing societal demands, competing demand for skills and digital transformation. The ICE, our members and the profession have a major role to play in addressing these.*

### The world needs better, sustainable infrastructure

There is a large and growing gap between the infrastructure the world needs and the infrastructure systems that we have. Long term vision, innovation, investment and action are needed to close this gap and also drive up living standards. There is a shortage of skills and an insufficient pipeline of professionals to design, develop, maintain and improve the infrastructure the world needs to thrive.

### The sixth industrial revolution

Automation, BIM, digital twins and AI are streamlining design and construction processes, while the Internet of Things and other technology are transforming the monitoring of the condition and safety of existing infrastructure. Complex, interoperable systems require a major shift in infrastructure engineering skills and a strong stance on the ethical use of technology tools. They also need deep and positive collaboration and co-ordination with related disciplines.

### Climate and nature emergency

Society and nature are facing unprecedented threats from climate change. Climate change is demolishing fixed assumptions about the weather that infrastructure will have to endure. The SDGs were adopted by the UN in 2015 as a universal call to action to end poverty and protect the planet, and ensure that by 2030 all people enjoy peace and prosperity. However, with the UN reporting in 2024 that the world is on track to achieve only 17 per cent of the SDG targets, urgent action continues to be required.

### Members want us to focus

Members say they want the ICE to do more to demonstrate the profession's positive impact in combating the climate and nature emergency and improving professional standards.

### Society needs to trust infrastructure professionals

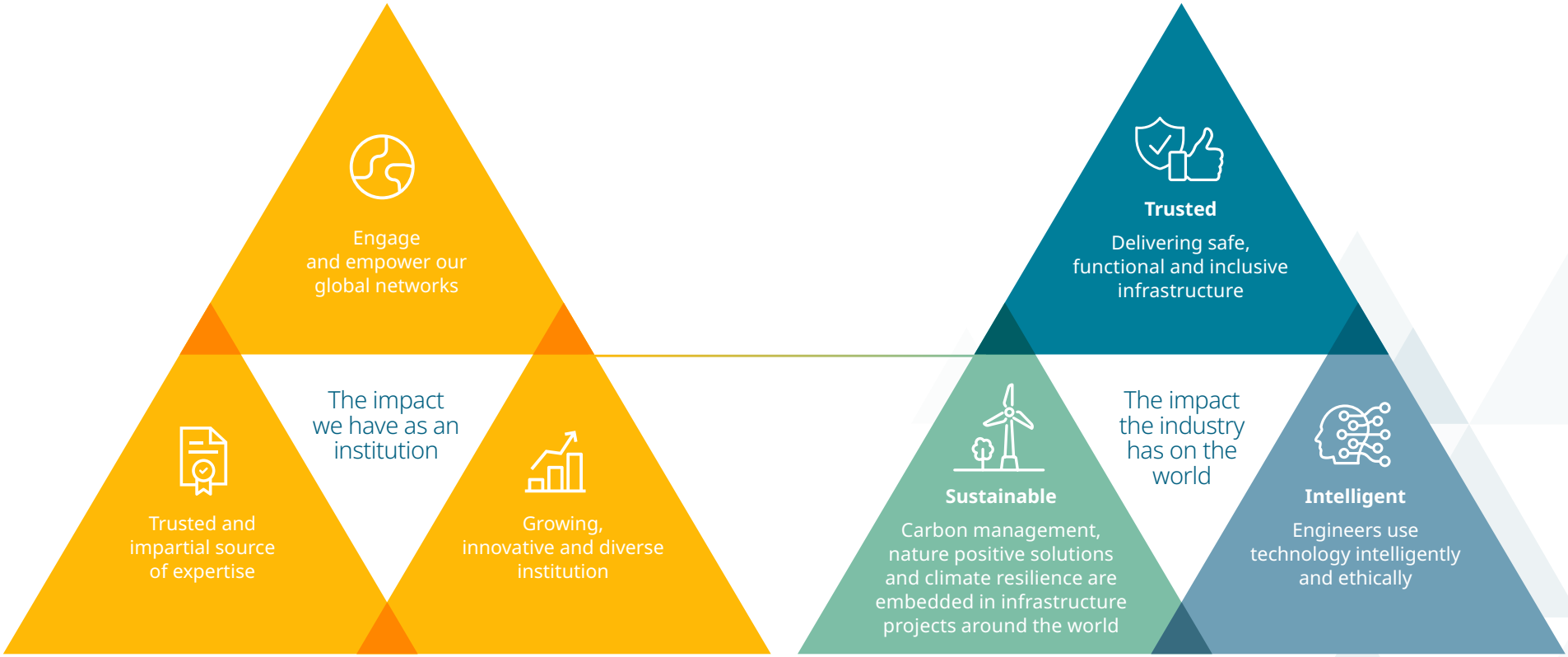
Recent safety failures such as Grenfell Tower, Baltimore Bridge and Toddbrook Reservoir highlight the critical importance of safety as the foremost responsibility for infrastructure professionals.

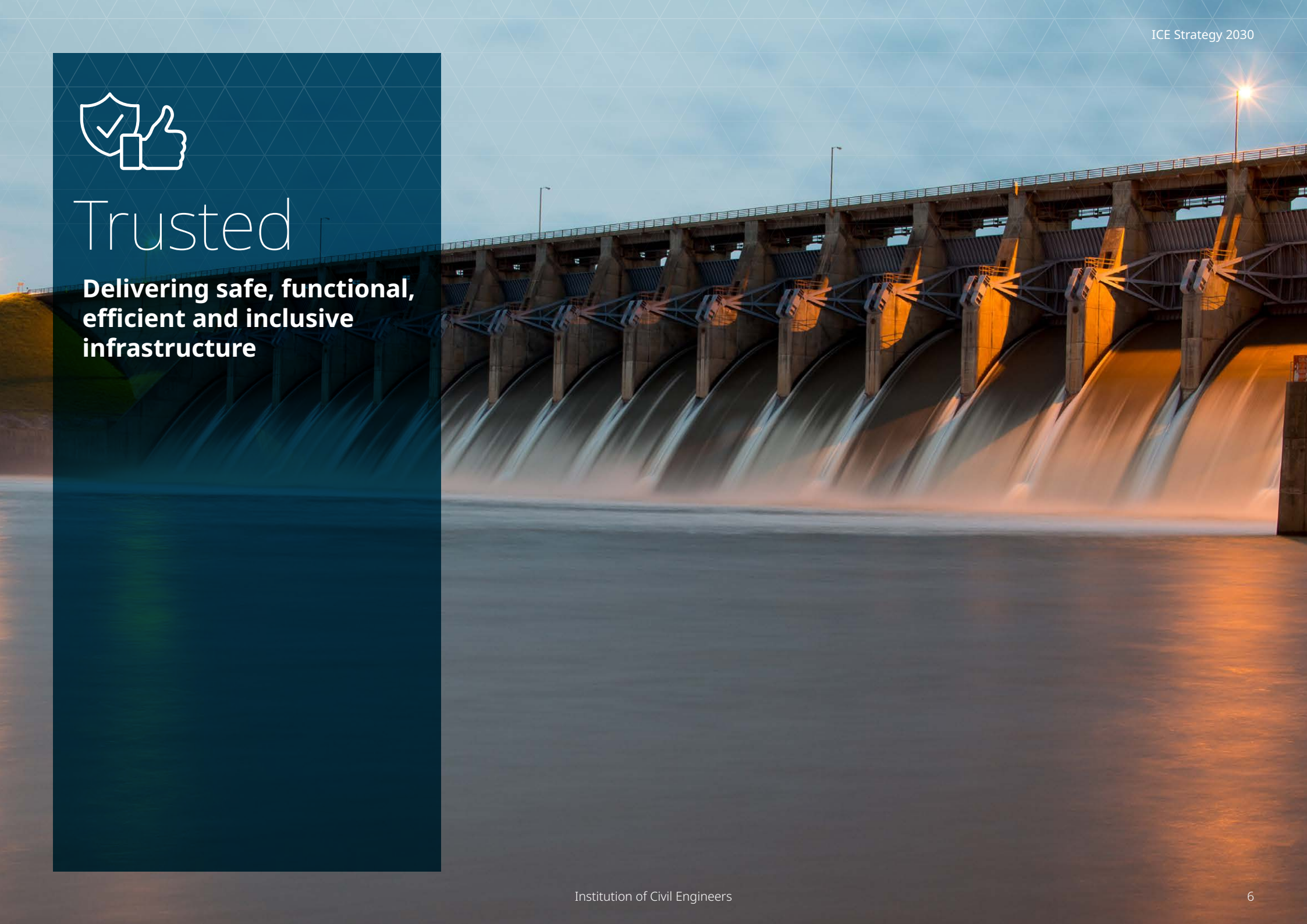
# Our vision and ambition

*Our vision is for a world where infrastructure enables people and the planet to thrive.*

The Institution of Civil Engineers champions the engineering professionals who design, build and maintain the infrastructure that we all rely on. We are more than a professional institution, we are a community, the home of infrastructure.

*We want our members to be bound by a strong culture and shared values of integrity, competence, collaboration and innovation in order to achieve impact.*





# Trusted

**Delivering safe, functional, efficient and inclusive infrastructure**

## ***Trusted:*** *delivering safe, functional, efficient and inclusive infrastructure*

### Why this matters

Since the Institution was founded, building and maintaining safe and functional infrastructure has been a fundamental part of civil engineering training and practice. The complexity of modern, inter-related systems and the fragmentation of supply chains and disciplines means that safe and functional infrastructure requires professional expertise by qualified individuals; the Grenfell fire tragedy in the UK is an illustration of the severe consequences of system failure.

Ageing infrastructure faces growing natural hazards and cyber threats – we need to intensify our attention to maintenance to ensure public safety and protect the integrity and functionality of infrastructure assets. We also have a role to play in considering how we adapt, decommission and reuse buildings and materials.

Delivering economically viable, inclusive and affordable infrastructure is a challenge that all nations are grappling with. In too many countries and sectors, projects have exceeded costs and time targets, resulting in a credibility issue for the profession.

Improving productivity, at a product and system level, is crucial – technology will play a large part in this, and we must ensure that it is used ethically.

### What we'll do

We will strengthen our reputation as the leading institution for building and maintaining safe, functional, efficient and inclusive infrastructure by growing the number of qualified professionals and by enabling professional competence.

We lead public debates about safe infrastructure and the importance of professional leadership. We will make the case for funding infrastructure maintenance and the implementation of modern asset management systems. We will continue to learn and share lessons about the productivity of infrastructure and major projects, building capability and confidence that the industry can deliver on time and to budget. We will continue to make the case for a collaborative, enterprise-wide approach to infrastructure planning, contracting and delivery.

We will foster a confident and respected voice for the industry and the public.

### What this aims to achieve

*By 2030: infrastructure that is safe, more functional, inclusive and effective*

- *For members: best in class qualifications and knowledge that equip professionals for the challenges that they face*
- *For industry: better project delivery and increased confidence in infrastructure delivery*
- *For society: safer, more functional and inclusive infrastructure, delivered to time and on budget*
- *For the institution: engage and empower our global networks to provide them with trusted and impartial expertise in support of this ambition*

# Sustainable

**Carbon management, nature positive solutions and resilience are embedded in infrastructure projects around the world**

***Sustainable:** carbon management, nature positive solutions and resilience are embedded in infrastructure projects around the world*

## Why this matters

Climate change continues to be the biggest threat to global society. 2024 was the first year in which global temperatures rose 1.5ºC above pre-industrial levels, it is essential that every member of the ICE plays a part in mitigating and adapting to climate change.

The UN SDG targets conclude in 2030 and the ICE aims to play a leading role in shaping what follows, using our seat on the World Federation of Engineering Organizations, our relationship with UN organisations and our UK and international networks and partnerships.

Sustainable practices provide economic and societal benefits. Improving productivity, at a product and system level, will drive efficiency and cut wastage.

## What we'll do

We will deliver more standards relating to sustainable and resilient infrastructure. We will equip engineering professionals to increase the take-up of PAS 2080 and other standards. We will drive up awareness of the impact of infrastructure on nature and equip engineering professionals to reverse biodiversity loss. We will champion the vital need for sustainable infrastructure globally, using evidence and engineering expertise to make the case.

We will lead by example and reduce the carbon impact of the institution's own operations and use One Great George Street to showcase best practice to the profession and visitors.

## What this aims to achieve

*By 2030: carbon management, nature positive solutions and resilience are embedded in more infrastructure projects around the world:*

- *For members: equipped to deliver and manage lower carbon, more resilient, nature positive infrastructure*
- *For industry: efficiently meeting needs for lower carbon, more resilient infrastructure*
- *For society: credible progress on the pathway to decarbonisation, adaptation and biodiversity goals*
- *For the institution: continue to grow, engage and empower our global networks to promote and foster the sustainability agenda in our profession*

# Intelligent

**Engineers and technicians use technology intelligently and ethically**

***Intelligent:** engineers and technicians use technology intelligently and ethically*

## Why this matters

Technological change is impacting all aspects of our sector from academic studies to design, construction and maintenance practices. The Institution and the industry need to be at the forefront of this change.

Professionals are already using technology to deliver more efficiently. Technology such as Building Information Modelling, Artificial Intelligence (AI), digital twins, Internet of Things are being used to drive up productivity. Used in conjunction with automation and modern methods of construction, this could further transform the industry, not only making it more efficient but also making it a much more attractive career choice.

Digital solutions need to be assured by accountable, competent professionals and they need to be used ethically; they should be used to support decision making, to support but not replace engineers' professional judgement.

Over the last two centuries, the profession has been at the forefront of the physical world of infrastructure, but now we need to lead its integration with the digital world.

## What we'll do

Our growing cohort of infrastructure engineers and technicians will play a key role in the application of new technology. We will support both civil and infrastructure professionals to mobilise all engineering disciplines to deploy new technology in the design, construction and maintenance of infrastructure.

We will review our qualifications and make sure they reflect new digital-related disciplines and ensure that professional standards are maintained in the era of AI. We will investigate the potential for regulation of engineering professionals working in this field and promote the use of digital tools. We will help engineering professionals develop confidence in the ethical application of AI and related tools.

Our members have potential to be the system integrators between the physical and digital worlds and the cyber-physical connections between them. We can lead the charge towards data interoperability and integration.

The profession can help mitigate risks to digital data supporting critical infrastructure and utilities and advise on the controls to manage and mitigate risks.

We will proactively engage with industry partners to shape the ICE as the home of modern infrastructure.

## What this aims to achieve

- *For members: better awareness and confidence in the ethical use of technology*
- *For industry: productivity and competitiveness thanks to uptake of technology by well-qualified professionals*
- *For society: improved transformation of infrastructure service provision, with digitisation enabling more efficient and reliable services*
- *For the institution: provide expertise, engage our networks and grow and diversify our presence to support this ambition*

# Achieving impact through our members

Engineering professionals provide the world with the sustainable infrastructure that it needs. As an institution, we support members, the profession and the sector by the work we do.

We begin by inspiring capable people from all walks of life into all grades of membership of the ICE. We ensure that our professional qualifications are fit to address today's and tomorrow's challenges. Through our qualifications we provide confidence to employers, clients and the public that they can trust that professionally qualified engineers and technicians will do their jobs safely, ethically and sustainably. We provide knowledge so that engineering professionals remain up to date and can innovate throughout their careers. We speak on behalf of the profession, in public, with the industry, and with policy makers, so they have trusted engineering advice that is grounded in collective experience of creating infrastructure that works. And we promote and celebrate the very best that our industry can do: the best people, teams, projects and research that delivers a world where infrastructure enables people and the planet to thrive.

*We use a theory of change approach, setting out the impacts we aim to achieve, and the inputs, activities, outputs and outcomes to achieve these. We look at the impact that engineering professionals achieve for industry, society and the world, and the way the ICE supports this impact through our services to members, industry and society.*


- **Members around the world**
- **ICE teams**
- **Partners**
  - Schools, colleges and universities
  - Employers
  - Qualifying bodies
  - National governments
  - International organisations
- **Knowledge**
  Over 200 years of learning, experience, innovation and collaboration

- **Qualified membership**
  - University accreditation
  - Professional qualification
  - Specialist registers
  - CPD
- **Dependable knowledge**
  - Standards and guidance
  - Contracts
  - Events and conferences
- **Policy engagement**
  - Policy papers
  - Engagement with governments, employers and international organisations
  - Public-facing communication

**Infrastructure professionals are more:**

- **Trusted**
  Delivering safe, functional, efficient and inclusive infrastructure
- **Sustainable**
  Carbon management, nature positive solutions and resilience are embedded in infrastructure projects around the world
- **Intelligent**
  Engineers and technicians use technology intelligently and ethically

**Infrastructure is:**

- **Sustainable:** for people, the economy, nature and the environment
- **Safe** and trusted
- **Efficient** and affordable
- **High quality,** reliable and secure

# Delivering in partnership


## Society

- Engineering professionals are trusted to design, plan and deliver safe, functional, efficient and inclusive infrastructure
- Engineering professionals plan and deliver sustainable infrastructure that enables people and the planet to thrive
- Engineering professionals make a positive contribution to community engagement and placemaking

## Policy and Decision Makers

- Turn to engineering professionals for expertise and innovative thinking
- Have confidence that engineering professionals are trustworthy and capable

## Employers

- Engineering professionals who are innovative and adaptable in a rapidly changing world
- High quality workforce who maintain professional relevance and skills, with a pipeline of new entrants to fill skills and capacity gaps
- Adopt ICE standards and contracts to improve their business and look to ICE for knowledge sharing and policy influence

## Education

- Learners from diverse backgrounds are inspired to follow engineering studies and careers
- Equipping graduates with the skills and capabilities needed for the future
- High quality research furthering innovation
- Growing and flourishing academic partnerships, creating high quality learning and insights

## Members

- Pride and value in their professional qualification and its relevance
- Can go to the ICE for the latest knowledge and to see what the future holds
- Maintain and grow their professional networks and standing
- Satisfied that the ICE is a voice for the profession

# Measuring what matters

*Our strategic ambition is centred on the impacts that our members and the profession will have on the world: to be more trusted, sustainable and intelligent. The Institution of Civil Engineers plays a crucial convening and supporting role, so we have identified indicators based on the outputs of our theory of change.*

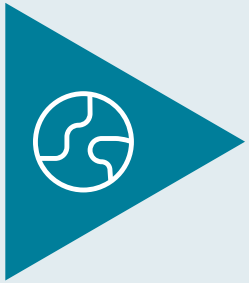
## Trusted & impartial source of expertise

**Our expertise is heard**

- Growth in consumption of our work

**Our expertise is is used for action**

- Growth in evidence of our work contributing to positive action on better infrastructure



## Engage and empower our global networks

**Engaging**

- Growth in engagement with members and other stakeholders

**Empowering**

- Growth in empowerment scores

## Growing, innovative & diverse institution

**Growing**

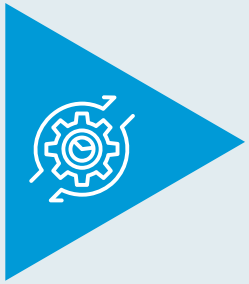
- Growth in members

**Innovative**

- Growth in the ICE being considered the home of infrastructure by members and the sector

**Diverse**

- Our members and staff represent the diversity of the members we serve



## Enabling an effective operation

**People**

- We remain a safe and thriving workplace

**Planet**

- Improvement in our sustainability and carbon performance

**Profit**

- We have a resilient financial model and plan

**Processes**

- We have compliant, effective and secure IT and data systems

Annual targets will be developed for each annual plan with 2026 as a baseline year.

*Infrastructure shapes our daily lives, connecting communities and powering progress. As the home of infrastructure, the Institution of Civil Engineers is at the heart of this transformation, championing excellence, innovation and the environment to build a better, more resilient world for generations to come.*

**Trustee Board 2024–25**
(from top left)

**Jonathan Spruce**
MEng MBA CEng FICE FCIHT

**Liz Waugh** BSc (Hons) AMICE MCIPR MCI

**Ohis Ilalokhoin** CEng FICE

**Lucy Rew** CEng FICE

**David Porter**
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**Dr Janet Young**
CBE PhD FICE FInstRE FRICS

**Trustee Board members not pictured**

**Edward Bingham**
BEng (Hons) PGCert CEng FICE fCMgr

**Professor Priti Parikh** CEng FICE










**Institution of Civil Engineers**
The Institution of Civil Engineers (ICE) is a 97,000-strong global membership organisation with over 200 years of history.

It is a centre of engineering excellence, qualifying engineers and helping them maintain lifelong competence, assuring society that the infrastructure they create is safe, dependable and well designed.

Its network of experts offers trusted, impartial advice to politicians and decision makers on how to build and adapt infrastructure to create a more sustainable world.

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