



ice  
Institution of Civil Engineers

Scotland

# Year in Review



V&A Dundee  
Winner of the Greatest Contribution to Scotland  
Scotland Civil Engineering Award 2019

2018/19

# ICE Scotland at a glance

ICE Scotland supports and represents over 8,000 members living and working in Scotland.

Our members design, build and maintain Scotland's transport, water, waste and energy infrastructure.

ICE is the independent voice on infrastructure matters, always acting for the public good.



V&A Dundee



Aberdeen Western



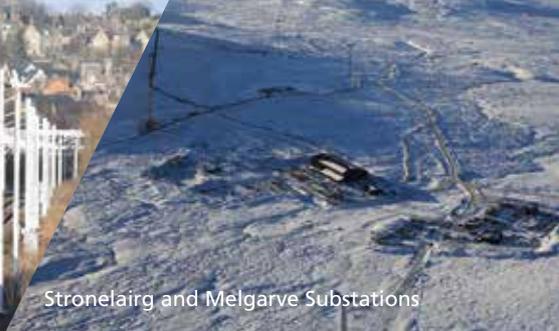
Lochmaddy Water Treatment Works



Perth Transport Future



Stirling-Dunblane-Alloa Electrification



Stronelairg and Melgarve Substations

Cover image and on these pages courtesy of Murdoch Ferguson, Ferguson Imaging

# Scottish Civil Engineering Awards 2019



Peripheral Route



Fort Augustus and Kytra Lock Replacement



Perth Transport Futures Project Phase 1



Roundknowe Carbon Fibre Wrap



The Redevelopment of Dundee Station

This year we enjoyed working with CECA to deliver the first Scottish Civil Engineering Awards – prestigious accolades celebrating projects delivering the very best civil engineering.

Nominations came from far and wide, and after a very difficult judging session, winners were announced.

## Winners are:

- **Aberdeen Western Peripheral Route**  
– Infrastructure Award (Road)
- **Fort Augustus and Kytra Lock Replacement**  
– Heritage and Restoration Award
- **Lochmaddy Water Treatment Works**  
– Innovation Award
- **Perth Transport Futures Project Phase 1**  
– Community Award
- **Roundknowe Carbon Fibre Wrap**  
– Maintenance and Innovation Award
- **Stirling-Dunblane-Alloa Electrification**  
– Infrastructure Award (Rail)
- **Stronelaig and Melgarve Substations**  
– Sustainability and Resilience Award
- **The Redevelopment of Dundee Station** – Building Award
- **V&A Dundee – Greatest Contribution to Scotland Award**

# Introduction from the Chair, 2018/19

It's been an interesting year to be Chair of ICE Scotland. We started with the publication of our own Scottish State of the Nation report on Infrastructure last November. This coincided with the announcement by the Scottish Government that they were setting up the Scottish Infrastructure Commission, a main recommendation contained in our SoN. We had a meeting with Infrastructure Cabinet Secretary Michael Mathieson at the time and he was very complimentary about the ICE Scotland report. Various individuals associated with ICE Scotland have since been interacting with the Commission.

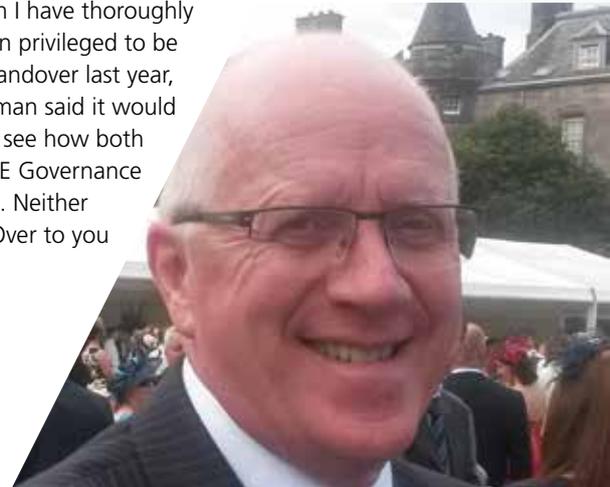
Unfortunately, at the same time, we lost our Policy Manager, Kelly Forbes. Kelly put a huge amount of work in to the SoN and is very much missed. Early this year our then Regional Director (RD) Sara Thiam moved on to take up an exciting new role as Chief Executive of SCDI. ICE Scotland has made very significant progress in terms of recognition in the decision-making circles of Scottish policy and Sara has been instrumental to this. I wish them both very well. Nevertheless, policy will continue to be a key focus for ICE Scotland and we are fortunate to have Hannah Smith now in place as RD. Hannah's experience in policy is well-recognised and we're looking forward to continuing to be a 'come to' organisation for comment and advice.

These challenges aside, policy work didn't stop. We continued to participate in the Scottish Govt Cross Party Construction Group,

submitted evidence to the EFW Construction Sector Inquiry, and attended a witness presentation session. Submissions were made to several Scottish Government consultations and we continue our representations on various representative bodies.

The year has ended as it started in a way with the publication of the 2019 ICE SoN report, Connecting Infrastructure with Housing. I was a member of the Steering Group for this report which sets out that there is much we need to recognise in terms of planning future infrastructure needs to meet the demands of our cities, towns and villages. There's no dedicated Scottish SoN this year, but we're working on this for 2020. I wish the incoming Chair, Graham Edmond, well for his term and thank him and all the ICE Scotland Committee for their support and assistance over the past 12 months which I have thoroughly enjoyed and been privileged to be part of. At the handover last year, Lawrence Shackman said it would be interesting to see how both Brexit and the ICE Governance issues developed. Neither are concluded! Over to you Graham.

**Jim Young**  
Chair



# ICE welcomes new Director

I am delighted to have joined ICE Scotland.

Civil engineering is central to the way we live our lives today, underpinning our infrastructure, our economy and our wellbeing. ICE members are of course, at the very heart of this and in my short time in post I have been hugely impressed by what the community is delivering.

Our infrastructure requirements are however set to change. Shifting economies and demographics will change the way our infrastructure is used, giving rise to new requirements as well as putting strain on existing assets.

These changes will be exacerbated by climate change. We are already seeing changing weather patterns threaten our existing infrastructure and looking ahead a deeper set of mitigation measures will be required.

Cutting-edge Civil Engineering will be critical to putting in place the right solutions to meet these challenges, but the sector itself will be challenged too.

How sustainable are our practices? Are we making the best use of emerging technologies? How do we equip our future workforce to lead us into the future?

The talent, resourcefulness and ingenuity of civil engineers is already making a visible difference; connecting people and places, improving our building stock, and delivering green energy. I believe we have laid firm foundations for what lies ahead, and I look forward to working with ICE members to ensure that Civil Engineers can continue to make the world a better place.

**Hannah Smith**  
Regional Director  
ICE Scotland



# Informing the Debate

Creating the right infrastructure across Scotland – both by investing in new infrastructure and by properly maintaining our existing assets – has never been more important than now.

As a society we are faced with a raft of challenges:

- **Demographic Shifts** – including an ageing and urbanising population – are placing pressure on services, infrastructure and are changing the patterns of how we live, work and travel.
- **Technology** is permeating every facet of our lives – from Big Data, industrial robots to new materials and software platforms.
- Our **Economy** is changing. Global centres of economic activity are shifting, and at home there's a renewed focus on inclusive and productive economies with questions arising over the pursuit of continual economic growth.
- **Climate Change** is the principal challenge of our time, with Government's – including Scotland's – declaring a Climate Emergency.

Good civil engineering will be at the heart of tackling these challenges – from building renewable energy infrastructure to creating the public transport systems we need.

The discipline though will have to respond to these challenges too – examining our own carbon footprint and asking what Civil Engineering really looks like in a new technological era.

The Institution of Civil Engineers is proud to lead this debate, as an impartial voice acting in the public good. The ICE Scotland staff team, Public Voice Committee and Sustainable Infrastructure Group will play a key role in this debate going forward – engaging with industry, government and the public.

# Membership

Whatever stage you are at in your civil engineering career there is an ICE membership grade to match. When you have ICE letters after your name it gives you the recognition and credibility to work in the built environment anywhere in the world.

For membership events near you, visit [www.ice.org.uk/scotland](http://www.ice.org.uk/scotland) and click on the professional qualification training tab.

## Highlights

- ICE Membership is growing and expanding to include other professionals working in the built environment through our new Associate Membership (AMICE)
- Senior industry figures continue to be recognised and we welcomed 14 new Fellows this year
- We welcomed new students, technicians, incorporated and chartered members in the last year broadening our diverse membership.

## Get involved

- Organise learning or social events near you
- Use your skills to record a lecture
- Become an ICE Schools ambassador

- Promote ICE Scotland events in your organisation
- Host ICE events in your workplace
- Join an expert panel or special interest group
- Provide expert opinion to inform ICE Scotland's policy work and media engagement
- Help showcase the profession by getting involved in our campaigns
- Enter your projects for awards
- Become a Supervising Civil Engineer (SCE), DE or mentor and support apprentices, technicians and graduates to become professionally qualified
- Become a professional reviewer.

## Contact

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West of Scotland: [sabine.maclean@ice.org.uk](mailto:sabine.maclean@ice.org.uk)

## ICE 200 legacy

As we celebrated 200 years of ICE, we showcased the transformational effect that engineers have on society – shaping our day to day lives.

We focused on public engagement, showing that civil engineering is a fun and interesting career and that civil engineers make a real impact.

Some of the highlights of our activity included:

- Our Pitch 200 competition, where civil engineers explained an engineering project or concept to a lay audience in only 200 seconds!
- The world's longest LEGO bridge came to the St Enoch shopping centre in Glasgow, attracting over 600,000 visitors and 300 pieces of media coverage
- Popular boat trips on the Forth and Tay told the stories of the cities' engineering past, present and future
- Doors Open Tours of Aberdeen Harbour, Aberdeen Western Periphery Route (AWPR) and Glasgow bridges were organised by volunteers.
- Highlands and Islands showcased engineering landmarks on the popular NC500 route

- Scotland held 14 Explore Engineering events which reached over 2000 people
- Café 200 events attracted nearly 3,500 people

## Panel for Historic Engineering Works

We continue to learn from and celebrate our treasured historical pieces of Engineering through the PHEW.

This summer the group visited the highland village of Brora and the 1801 bridge crossing the river Brora, dating from 1801.



# Education and Inspiration

Top: SCDI YEC Event – Balancing bridges.  
Centre: DYW STEM event – DYW West Lothian  
Bottom: Oriam

Our members continue to inspire the next generation of civil engineers by volunteering across Scotland.

## Some of the highlights are:

- 12000 quality contacts with young people and 200 members involved in E&I activities.
- Over 800 pupils took part in the revised Rapid Response Engineering Challenge.
- There has been an increase in the number of community-based STEM events with over 1500 people attending ICE activities at science festivals and family fun days.
- Civil engineering companies successfully borrowed the Bridges to Schools kit to engage with young people in schools across Scotland.
- Young women were encouraged to consider a career in civil engineering with 600 attending Girls into Physics & Engineering events across Scotland and various International Women in Engineering events.
- Almost 2500 pupils took part in interactive challenges at Step into STEM (formerly Big Bang) events from Dumfries to Thurso.
- Primary school pupils learned that there's more to civil engineering than building bridges by taking part in the ICE flood risk activity.
- ICE volunteers started the Senior Phase campaign, speaking to 16-18 year old pupils about careers in civil engineering.



*(Mike Wilkinson Photography for SCDI Young Engineers & Science Clubs Scotland)*



*(Mike Wilkinson Photography for Heriot Watt University)*



# Celebrating Diversity

ICE joins the Pride parade in Glasgow

Diversity and Inclusion (D&I) remains a priority with Scotland's 'Fairness, Inclusion and Respect' (FIR) Representative Emma Dickson taking part in the ICE FIR Group.

The number of women in the Glasgow and West of Scotland Committee has risen significantly with seven now in the committee. Rather than set up specific D&I events, the approach has been to include this in existing activities, with each meeting receiving activity updates and hearing about future plans. A D&I checklist is also in use, which ensure things such as access to venues, dates and times of meetings, and speaker diversity are considered. This has been reflected in recent events, such as 'Getting to Hogwarts on time' (Fairhurst Women Engineers talk).

The approach is being rolled out to social events too, to ensure there is something for everyone. Our golf events are very successful, but we recognise that not everyone can take part – so a broader calendar of social events is being worked on across ICE branches, including quiz nights and coffee socials.

One key event, very much focused on D&I, was the Pride event in Glasgow. 12 ICE graduates, students and members – LGBTQ+ and Allies – joined over 9000 others at the Glasgow Pride March for the very first time on the 17 August 2019. There was a carnival atmosphere as the group set off from Clyde Place, with a

band playing to set the pace as the march took to the streets through central Glasgow!

Walking in Glasgow Pride was our opportunity to show the diverse individuals that work within the civil engineering profession, and to celebrate the contributions all ICE members make towards big societal challenges such as climate change.

Next year we encourage you to join us at the march, which ended with an enjoyable lunch in the sunshine, reflecting on the importance of us creating a diverse and inclusive civil engineering profession.



Our Branches and Specialist Interest Groups across Scotland continue to provide CPD opportunities for members with 43 events reaching well over a thousand ICE members.

We also live-streamed events and held several online 'lunch and learns' – helping our ICE members grow their industry knowledge without having to step away from their desk.

Our programme of events is always growing, so keep up to date using the events calendar on our website.

## **ICE Students and Graduates scoop air quality competition win**

Earlier this year a team of four, Thomas Findlay, Pieter Jacobs, Calum Wiegatz and Bobi Archer from the ICE Edinburgh Graduate & Student's Committee recently competed in the Young Engineer's Air Quality Challenge.

The competition was organised by the New Civil Engineer and challenged us to explore practical and sustainable strategies for improving air quality by 2025, through utilisation of the roads.

The shortlisted proposal was to develop a 'TravelSafe' app which would allow cyclists to rate routes and flag hazards – a platform which exposes issues whilst celebrating existing unrealised infrastructure. The platform could

also be used as a planning tool, to collect spatial data on public perception to enable targeted infrastructure improvements.

Four teams were invited to present their proposals at the Future of Roads conference in London on the 4th of July and the Edinburgh branch were successful in winning the competition.



# Get Involved

Whether you're interested in pursuing a professional qualification, becoming an Associate Member, or getting involved in the ICE's policy work – we'd love to hear from you.

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Don't forget to keep up to date with us on social media:

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