whitby wood

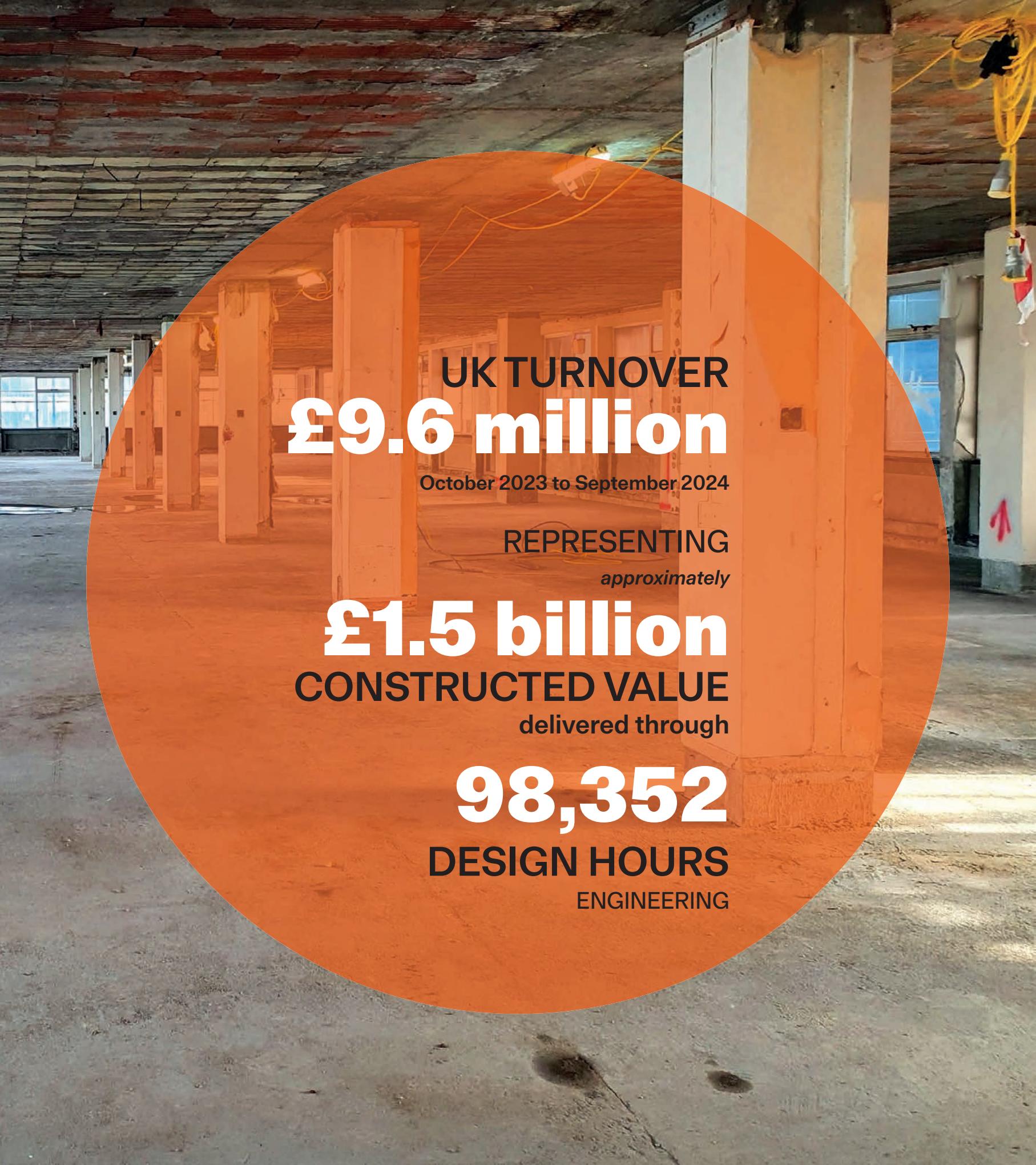
2024 PERFORMANCE & IMPACT REPORT

ABOVE : CANADA DOCK BOARDWALK / Rotherhithe, London, UK / client : British Land in joint venture with AustralianSuper, then Galldris Construction
architect : Asif Khan Studio, Townshend Landscape Architects

COVER : ROYAL MINT GARDENS APARTHOTEL / Tower Hill, London, UK / client : IJM Land / architect : BSBG London

CONTENTS

ENGINEERING



UK TURNOVER

£9.6 million

October 2023 to September 2024

REPRESENTING

approximately

£1.5 billion

CONSTRUCTED VALUE

delivered through

98,352

DESIGN HOURS

ENGINEERING

FOREWORD

ENGINEERING AS IF PEOPLE MATTERED

In 1973, Seb's grandfather, Fritz Schumacher, published *Small is Beautiful: A Study of Economics as if People Mattered*, challenging the fundamental principles underpinning our economic system of consumption, profit and growth. He proposed a very logical, different economics centred around people — logical because the economy serves the people not the other way round.

This is also the basis of good business and is the cornerstone of our business philosophy at Whitby Wood. When people matter, business and society do well. By people we mean clients, staff and all those using the buildings, bridges and infrastructure we design and advise on. And we want to know that we have impact, that we are changing things for the better, that we are shifting the dial.

The challenges in 2024 — accelerating climate impacts, global and national financial complexities, geopolitics — are the new normal. To excel in this environment we need to continually look beyond the traditional boundaries of our roles and expertise. Clients are in uncharted territory, so we need to continually adapt, be their expert partner, supporting them fully in navigating to business success.

Our overall response to these challenges has been strategic: strive for a lean nimble business, and diversify to offer broad/deep advice. Horizontal diversification to widen our scope of services and project types, and further strengthen our expertise in building adaptation. Vertical diversification in deploying engineering thinking in support of high level funding bodies navigating changing regulatory requirements for carbon emissions.

This report describes the performance of our UK business in the context of the wider Whitby Wood group: specifically the income, expenditure and activities accountable through Whitby Wood Limited, which means it includes our UK offices, Milan office and work by UK engineers on projects located internationally.

We thank all our clients for putting their faith in us, and our brilliant staff who have made us what we are.

Sebastian Wood and **Mark Whitby**

2024

OCTOBER 2023 — SEPTEMBER 2024

JOBS CREATED	**34**
PEOPLE WE EMPLOY	**103** in UK company to Sept 2024
OFFICES	**London Brighton Bristol Leeds Milan**
PROJECT LOCATIONS	worldwide
LIVE PROJECTS IN THE YEAR	**248**
UK TURNOVER	**£9.6m** Oct 2023 to Sept 2024
TOTAL UK TAX CONTRIBUTION	**£3.25m** corporation tax/PAYE/VAT/rates

WHITBY WOOD

UK GOVERNANCE

As designers and professional advisors to our clients, our reputation is built on trust. Strong and effective governance helps enable us to deliver on that trust, operate our growing business ethically, balance the interests of our stakeholders, and serve the public interest. As a purpose-led organisation, Whitby Wood is thoughtful about the company we keep and adheres to responsible business practices. The company's articles of association state that we have a responsibility to the environment, society and our stakeholders.

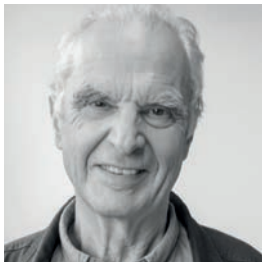
We believe the best businesses are built on the best ideas, and that those ideas come from a diverse, dynamic and empowered group of people. We have therefore developed a governance structure that enables a vibrant ideas-based organisation, supported by rigorous quality assurance and financial digital systems infrastructure.

The UK business is led by the **director team**, which sets strategy and has responsibility for all UK operations. This is supported by the **management team**, where each of our teams is represented, and which deals with the day-to-day running of the business.

Our strategy is shaped annually by the all-staff **Birthday Meeting**. The outcomes of this meeting are delivered by staff-led development groups. The staff have a monthly direct link to the director team via an **Employee Advisory Board** (EAB), where all levels of staff are represented. The EAB is chaired and run by staff and attended by a director.

DIRECTORS

SEBASTIAN WOOD
Chairman + Managing Director



MARK WHITBY

CHRIS MURRAY
Director of Operations

ALEX BAALHAM

KELLY HARRISON

SCOTT LEWIS

MOHSEN VAZIRI

TIM CUNNINGHAM
Company Secretary

PLUS DIRECTORS APPOINTED AT THE START OF 2025

TUAN HUYNH-QUOC

DANIEL ZWETSLOOT

WHITBY WOOD GROUP

The Whitby Wood Group operates as a single international practice, organised as a group of associated companies based in the UK, Singapore, Serbia, India and UAE.

Although this *Performance & Impact Report* is focused on the UK business — particularly in relation to financial reporting and HR — the contributions, skills and business activities of the other companies in the group are a significant factor in the way we work. We collaborate across international boundaries, forming project teams, developing technical solutions and sharing expertise.

The directors of each company are experts in their local/regional statutory and regulatory environments but all share the Whitby Wood business philosophy, using governance approaches appropriate to national contexts.

The senior directors of Whitby Wood meet regularly with the directors of the other companies to set overall group strategy.

whitby wood

UNITED KINGDOM / Whitby Wood Limited
UAE / Whitby Wood DMCC

whitby wood mills

SINGAPORE / Whitby Wood Mills Pte Ltd

whitby wood popovic

SERBIA / Whitby Wood Popović doo Beograd - Vračar

whitby wood pritamdasani

INDIA / Whitby Wood Pritamdasani Consulting Engineers Pvt Ltd

BIRTHDAY MEETING

BOTTOM-UP MANAGEMENT

The **Birthday Meeting** is a core forum in which our staff, unencumbered by director influence, can directly shape business strategy. The meeting happens at the start of each year, around the date of our founding, hence its name.

All except the company's directors attend, sharing their views and proposing actions. The resultant goals go forward to inform the company's business plan, as formulated by the directors. Staff-led Development Groups deliver the goals, and regular updates against the goals are provided through the year.

EFFECTIVE OUTCOMES

A series of significant goals developed over the life of the business originated from Birthday Meetings. Successfully implemented outcomes include:

— The **Employee Advisory Board** (see below)

— Development of **sustainability consultancy**

— A tailored **CPD programme**

— The concept of **values and anti-values** as a principle underpinning the work we choose to do

— The setting up of the **geotechnics team**

— The creation of a **Respect Clause** and its addition to contracts (see page 15)

BUSINESS

2024

2024 BIRTHDAY MEETING **42%** GOALS ACHIEVED

2024 BIRTHDAY MEETING **33%** GOALS IMPLEMENTED IN PART

EMPLOYEE ADVISORY BOARD

The setting up of an **Employee Advisory Board** (EAB) was a goal identified by our employees at the 2023 Birthday Meeting (see above) and implemented in 2024. It meets quarterly with a member of the director team, and is attended by a minimum of one volunteer per technical grade plus one from business support.

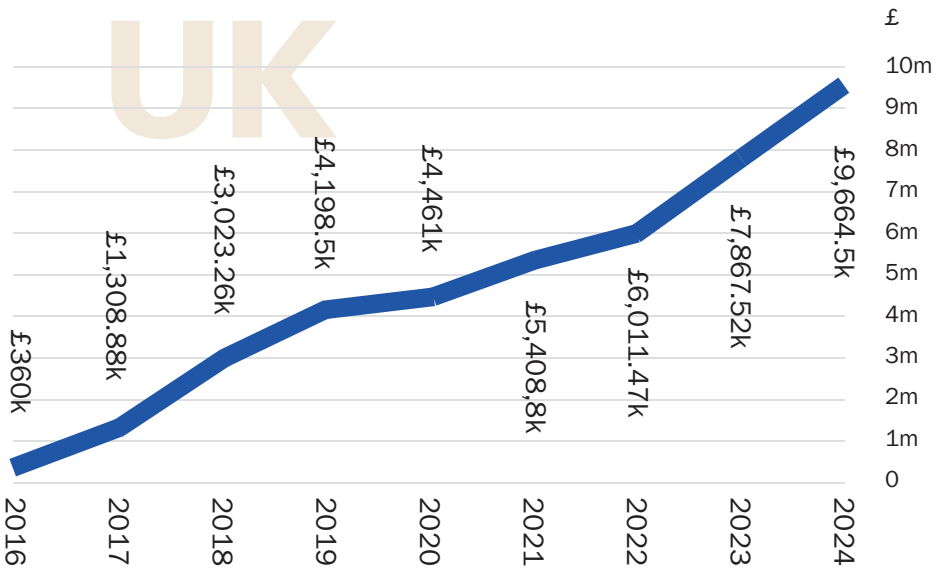
Before meetings, each group meets to share feedback. Quarterly meeting feedback is communicated to the director team, which assigns actions. Progress is reported to the EAB meetings that follow and is an ongoing director meeting agenda item.

WANDSWORTH GASHOLDER SITE London / client : Common Projects / phto courtesy Common Projects

FINANCIALS

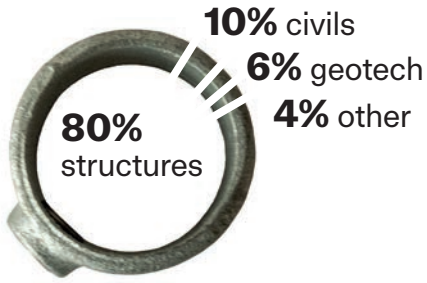
REVENUE AND GROWTH

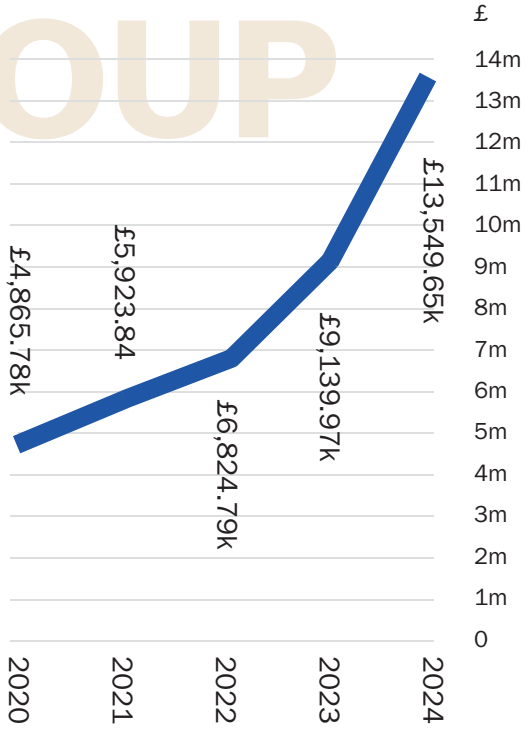
FINANCIAL YEAR : 1 OCTOBER — 30 SEPTEMBER



average revenue growth rate **16.8% growth** for last 6 years

2024 UK REVENUE BY DISCIPLINE



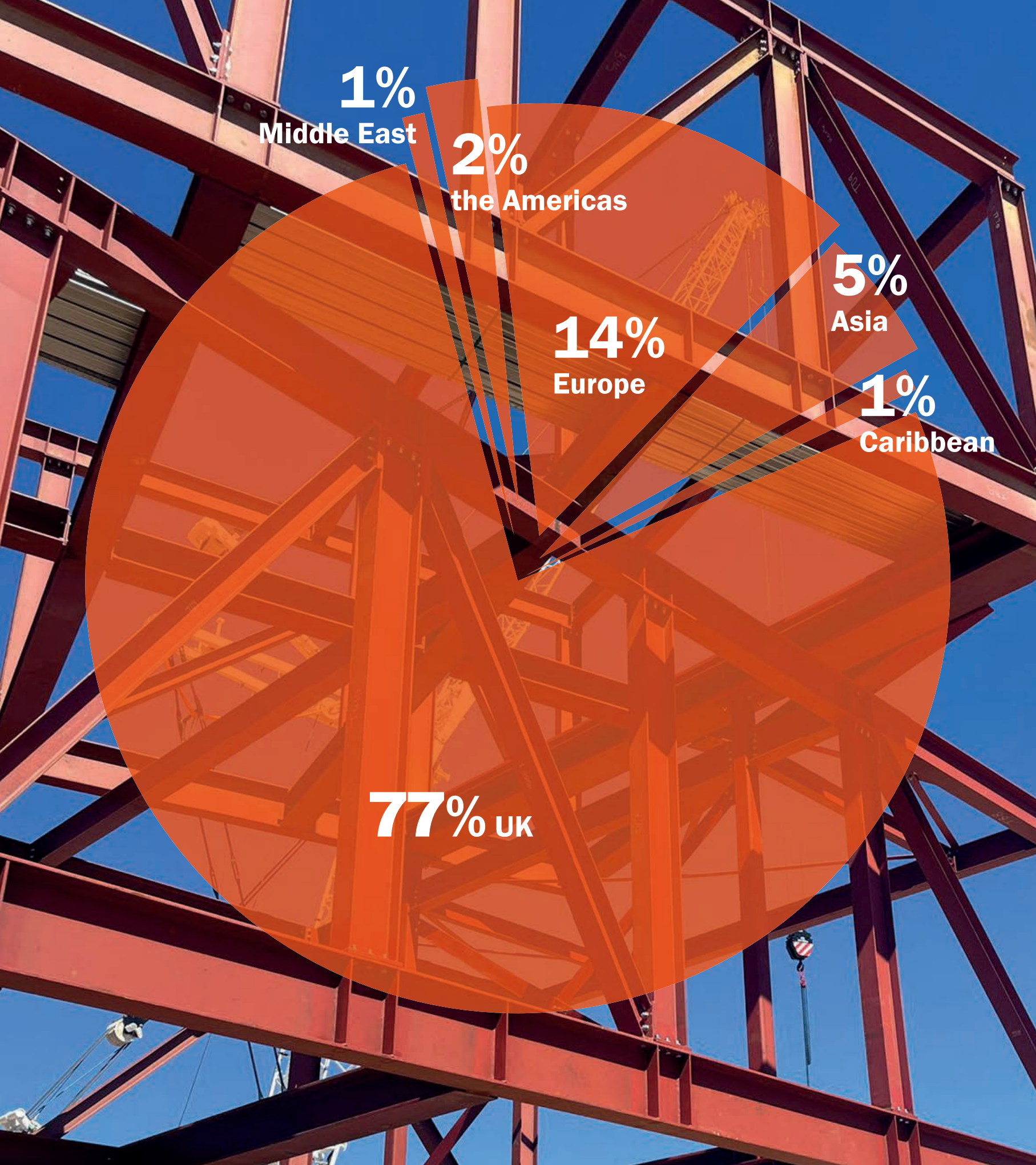


average revenue growth rate **30% growth** for last 5 years

UK : all years
INDIA : 2020 onwards
SERBIA : 2021 onwards
SINGAPORE : 2024

2024 REVENUE BY GEOGRAPHY

71.3% UK
6.5% INDIA
5.9% SERBIA
16.2% SINGAPORE


1%
Middle East
2%
the Americas
5%
Asia
14%
Europe
1%
Caribbean
77% UK

OUR PEOPLE

LONDON BRIGHTON BRISTOL LEEDS MILAN

OUR PEOPLE

As the governance structure shows, our people are important. We regard it as our obligation to provide employment and to train and support people — so that they can make their own impact on projects, on the business and on the industry as a whole.

We take their input very seriously, and in 2024 we addressed feedback on gender imbalance. To ensure that we can build diverse, complementary and competent teams, we use a variety of ways to find people, including through an internship programme.

We continue to strive for a supportive environment that enables creativity and personal development, resulting in strong empowered engineers.

2024

103 people in post

representing **22% growth** since 2023

20% of the 103 people in post have been with us for more than half of our **8** years

AVERAGE AGE	**33** years
AVERAGE LENGTH OF TENURE	**3** years
ROLES	**90** technical / **13** support
GENDER BREAKDOWN	**31%** women / **69%** men
TECHNICAL STAFF CHARTERSHIP	**36%** *with ICE, IStructE or international equivalent*

WE ARE FROM

AUSTRALIA
BELGIUM
CANADA
DENMARK
GHANA
GREECE
INDIA
INDONESIA
IRELAND
ITALY
JAMAICA
JORDAN
PAKISTAN
PHILIPPINES
PORTUGAL
SLOVAKIA
SPAIN
SWEDEN
UK

GENDER MILESTONE

2024

IN THE UK **16.5%** ENGINEERS ARE WOMEN *

AT WHITBY WOOD **25%** OF THE TECHNICAL WORKFORCE ARE WOMEN

GENDER EQUITY PLAN

In 2024, **gender equity plan** was formulated. It is a 'live' document, accessible to all our people for suggestions on initiatives and/or positive changes. The plan is reviewed regularly, monitoring for progress and new inputs.

Actions implemented during the year include improved mentoring arrangements and the establishment of a women's network.

GENDER PAY GAP ANALYSIS

We regularly undertake **gender pay gap analysis** in line with government recommendations, despite having fewer employees than the official 250 threshold. As part of our commitment to openness we publish the results on our website. Differences between male and female mean and median salaries at various grades are reported.

The 2024 figures were not available at the time of this report.

A summary of the 2023 figures is shown below. That year, although our overall mean pay gap reduced, there was a widening of the gap at higher salary levels — some senior female employees had left the business.

The 2024 analysis will be published online in the coming months.

2023

OUR MEAN PAY GAP **22%**

OUR MEDIAN PAY GAP **21%**

PAY BANDING

The **gender equity plan** requires the internal publication of the practice's salary bands, helping people understand where their salary sits. In 2024, we published them for all grades below associate level.

* Women's Engineering Society (WES) / www.wes.org.uk/about/what-we-do/resources/statistics

RESPECTFUL TREATMENT

We all have the right to be treated with respect in our places of work and the management team ensures that our people to know of this right, and that they can raise issues without fear.

However, the 2023 Birthday Meeting and the company's Women's Forum raised concerns about the way some collaborators and clients were communicating with us. The management team commissioned a **respect clause** for insertion in the Terms & Conditions for our **project contracts** to address this. This is a pioneering move for the construction industry.

55-59%
project contracts include standard T&Cs with the respect clause

6 bespoke appointments included the clause in 2024

THE RESPECT CLAUSE

Health, Safety and Wellbeing

The Client accepts that the Consultant has committed to protecting the health, safety and wellbeing of all members and staff of the Consultant, including the Consultant Personnel. The Client shall provide all reasonable assistance to the Consultant in achieving the Consultant's commitments to health, safety and wellbeing, and shall not by any act or omission breach, allow to be breached, or cause or contribute to the Consultant breaching such commitments. The Client further acknowledges and accepts that the Consultant shall be entitled to suspend or terminate:

a) immediately on receipt of the Consultant's written notice to the Client that the Consultant is aware of or is experiencing, or the Consultant Personnel have been or are experiencing, any dangerous or unsafe actions, conditions or behaviours (including but not limited to any such actions, conditions or behaviours that are not in accordance with any rules and guidance of the UK Health and Safety Executive) on the project site or any other premises of the Client or premises of the Client Personnel; and/or

b) immediately on receipt of the Consultant's written notice to the Client that the Consultant is aware of or is experiencing, or the Consultant Personnel have been or are experiencing, any harassment, mistreatment or similar misconduct (including but not limited to in relation to ethnicity, gender, sexual orientation and/or disability as may be applicable) in performing the Services, whether in person on the project site or any other premises of the Client or premises of any Client Personnel, or via any telephone, email or other written and electronic communication with the Client or Client Personnel.

in-house **APP PLATFORM**

TECHNOLOGY

Our success is based on good ideas, which need conversation and time to develop. To create time, we systemise and automate processes and predictable, repetitive-but-necessary tasks. We call this continuous improvement process *reducing friction*.

As a result, we have our own technology platform, developed in-house to suit our needs and operation. The platform is sophisticated but designed to be user-lite, resulting in cross-business use and a related large-scale collection of data, which we subsequently use to make better, more informed decisions.

Expertise and knowledge in the construction industry — and in individual businesses — is often siloed, leading to weak productivity improvements and slowing the application of sustainable and circular design and construction. Our platform allows us to work seamlessly across teams and across geographies, underpinning our nimble, international practice operation.

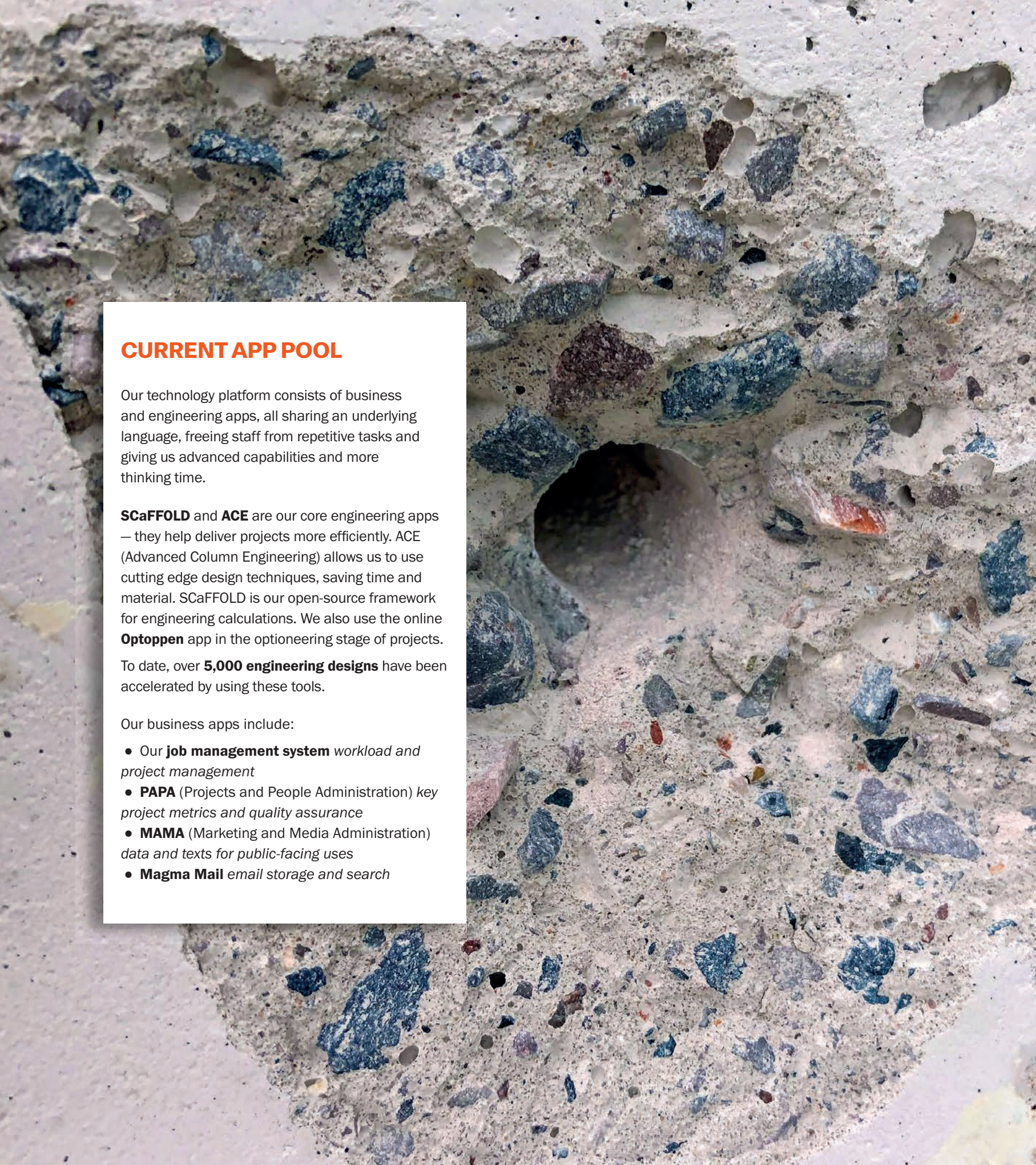
The opportunities opened up by a new generation of AI technologies has super-charged this work.

2024

PROJECT RECORDS	**1,700+** *2016 - 2024*
PROJECT EMAILS	**843,000+** *2016 - 2024*
TIMESHEET ENTRIES	**245,000+** *2016 - 2024*
PROJECT DATA	**1TB** *excluding BIM and engineering models*
PROJECT MANAGEMENT IMPROVEMENTS	**5% year on year** *from app development and data*

ARTIFICIAL INTELLIGENCE

Our data is all self-hosted and well organised, making it perfect for the application of AI. We are starting to focus on using Retrieval Augmented Generation to gain greater value from our data. This is a set of AI technologies that allow us to take the power of Large Language Models such as ChatGPT and infuse our own data, giving as a new team of Whitby Wood AI assistants.



CURRENT APP POOL

Our technology platform consists of business and engineering apps, all sharing an underlying language, freeing staff from repetitive tasks and giving us advanced capabilities and more thinking time.

SCaFFOLD and **ACE** are our core engineering apps — they help deliver projects more efficiently. ACE (Advanced Column Engineering) allows us to use cutting edge design techniques, saving time and material. SCaFFOLD is our open-source framework for engineering calculations. We also use the online **Optoppen** app in the optioneering stage of projects.

To date, over **5,000 engineering designs** have been accelerated by using these tools.

Our business apps include:

- Our **job management system** *workload and project management*
- **PAPA** (Projects and People Administration) *key project metrics and quality assurance*
- **MAMA** (Marketing and Media Administration) *data and texts for public-facing uses*
- **Magma Mail** *email storage and search*

our SERVICES include

STRUCTURAL ENGINEERING

ASSET PROTECTION

BRIDGE ENGINEERING

CONSERVATION ENGINEERING

OPTOPPEN

STRUCTURAL INSPECTION

STRUCTURAL REMEDIATION

SPECIAL PROJECTS

DEMOUNTABLE STRUCTURES

CIVIL ENGINEERING

FLOOD RISK ASSESSMENT

GEOTECHNICAL ENGINEERING

GEO-ENVIRONMENTAL ENGINEERING

LAND CONTAMINATION ASSESSMENT

SUSTAINABILITY STEWARDSHIP

STRATEGIC ADVISORY FRAMEWORKS

WHOLE LIFE CARBON ASSESSMENTS

CIRCULAR ECONOMY STATEMENTS + PRE-DEMOLITION AUDITS

EARLY STAGE ENERGY PERFORMANCE

DECARBONISATION ALIGNMENT

CLIMATE RISK ASSESSMENTS

RENEWALS FEASIBILITY

CARBON OFFSET + CREDITS ADVISORY

PLAYBOOKS

SMART CITIES TECHNOLOGY

SPECIALIST MONITORING SERVICES

CLIENT MANAGEMENT (CMT)

FORENSICS + EXPERT ADVISORY

BUILDING INFORMATION MODELLING

SERVICES

Today's clients are challenged by an increasingly complex develop/design built environment landscape. This demands much broader skills and capabilities from us, unlocked via our integrated technology platform, enabling us to cover all disciplines associated with buildings, bridges and masterplans — from fund sustainability stewardship pre-purchase, to design, construction and post-completion sign off.

EXPERTISE

SUSTAINABILITY STEWARDSHIP

expanding our **CAPABILITIES**

Funders tell us they are unclear about how to meet sustainability requirements, report whole-life carbon or measure outcomes. The right advice is needed at the right design stage. The challenge is in meeting the requirements in ways that have the most impact — all projects are different.

Thinking about this, we realised that there are three key areas of focus: FINANCE requirements, PLANNING requirements and the implementation of these through DESIGN. These can all be set out, monitored and measured against using a 'golden thread' we refer to as a PLAYBOOK.

We developed a framework of services supporting the new role of sustainability stewardship. The services cover the full range of ESG requirements, including resilience, environmental and social key performance indicators.

Our methodology is based on a Whole Life Carbon approach, linked early to local supply chains, with the aim of providing employment and business investment opportunities in low carbon materials, expertise and technologies. The process is collaborative. The framework can be used as a governance process pre-acquisition, creating a plan for measurable outcomes, with facility for monitoring and revision throughout.

In three months of framework operation . . .

3 LIVE SUSTAINABILITY STEWARDSHIP PROJECTS

3 PLAYBOOKS COMPLETED

1 RESEARCH PROJECT COMPLETED

4 PRE-DEMOLITION AUDITS COMPLETED

2024 saw an expansion of the civils team capabilities and increased interdisciplinary collaboration.

Team member **Tom Tosetti** was named Graduate of the Year in the NCE Graduate & Apprentice Awards 2024.

MILESTONES

CIVILS SERVICES GO INTERNATIONAL

— The civil engineering team provided input into **utility design** and **transport planning** for **international projects** at conceptual design stages

— **Flood risk assessment** capability increased

GLOBAL GEOTECHNICAL TEAM

— The geotechnical team grew their **international collaboration** portfolio, working on projects in the Middle East, Asia and the Caribbean

— Capabilities at international level include ground investigations, conceptual and schematic foundation design, and analytical model review

FIRST GRADUATE RESIDENT ENGINEER

In 2024, structural engineering graduate **Prashant Mistry** took on the role of resident engineer for the Wood Wharf F2 project in London's Docklands — the first time a graduate at Whitby Wood has tackled this role.

CONSERVATION ENGINEERING

Conservation Accredited Engineer **Joe Seal** completed a series of projects following his inscription on the ICE's Conservation Accreditation Register of Engineers (CARE), where less than 100 people are registered across the UK.

BUSINESS IMPACT

Despite the many challenges in 2024, including the UK's financial complexities, the business impact has been strong. We continue to work towards a lean nimble operation, with a focus on sustainability, as well as emphasis on the importance of our people.

The way we look at business impact is from the inside. Internally, we strive to be authentic to the principles we believe in, and to do our best to deliver consultancy and services responsibly, in healthy and nurturing ways for our employees.

To support this, we invest in our internal operations and work processes — for ethical reasons and because it's good business, for us and for our clients.

In 2024, we invested in ...
— **training** for our engineers and support staff
— **digital systems** that speed up administrative tasks, freeing up time and space for creativity
— **developing methodologies** that ensure we are acting responsibly in relation to the environment
— **recording and making accessible useful data** to enable intelligent decision making.

The significant strategies that flowed from these investments are outlined on the following pages.

INTERNAL INVESTMENT

working towards a **LEAN** and **NIMBLE OPERATION**

SUSTAINABLE PRACTICE	£**51,340** see following pages
TRAINING	£**117,560** all types of training
DIGITAL WORKFLOWS	£**72,390** see technology section
RESEARCH AND DEVELOPMENT	£**978,568** qualifying expenditure

2024

2024

OFFICES **London Brighton Bristol Leeds Milan**

98,352 ENGINEERING HOURS BOOKED

RECRUITMENT

2024

JOBS CREATED **34** of which ...

BY GENDER **44%** women / **56%** men

BY ROLE **79%** engineering / **21%** support

16 DIRECT HIRES

8 EMPLOYEE REFERRALS

2 PLACEMENT STUDENTS

2 RETURNEES

7 LEAVERS

INTERN PROGRAMME SUPPORTED **12** people

AUTHENTIC SUSTAINABILITY

Sustainability and the minimisation of embodied carbon are central to the practice, alongside project safety, programme and cost. We are equally committed to data collection and transparency.

In 2024, we transformed our practice-wide engineering design methodology to a **sustainability-driven process**, with sustainability factors embedded from the start for all project work.

BUSINESS IMPACT

VALIDATED TARGETS

commitment to **EMISSIONS REDUCTION TARGETS**

We set emissions reduction targets through the **Science Based Targets initiative** (SBTi), with levels required to meet the goals of the Paris Agreement. The net zero target is a commitment that covers direct and indirect business emissions, and specified emissions relating to our projects.

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

THE NET ZERO STANDARD
APPROVED NET-ZERO TARGETS

Whitby Wood commits to reduce scope 1 and scope 2 GHG emissions **42%** by 2030 from a 2023 base year, and to measure and reduce scope 3 emissions

Whitby Wood commits to reduce scope 1, 2 and scope 3 emissions **96%** by 2040 from a 2023 base year

Whitby Wood commits to reaching net Zero by 2040

SCOPE 1 / *direct emissions by the company*
SCOPE 2 / *indirect emissions from the generation of purchased energy*
SCOPE 3 / *upstream and downstream indirect emissions*

EMISSIONS IN 2023

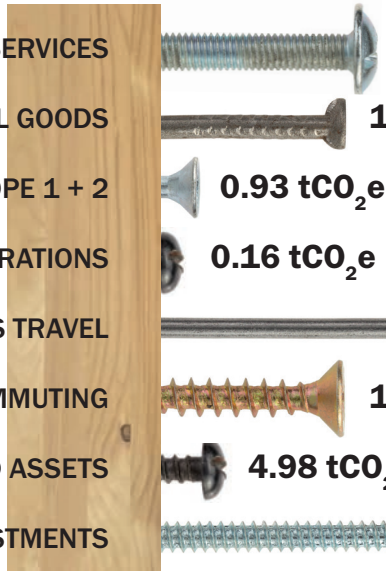
Our SBTi validated targets are based on our 2023 business emissions, shown below. As consultants, we have no scope 1 emissions — scope 2 energy use is our main output. Our plan to reduce this in line with the 2030 target includes a move to more energy-efficient premises. The 2040 target includes scope 3 emissions, generated from sources we do not own or control. These we will be monitoring year-on-year and reviewing progress regularly.

2023

SCOPE 1 + 2 EMISSIONS **7.81 tCO_2e**

SCOPE 1 + 2 + 3 EMISSIONS **116 tCO_2e** *specified project emissions not included*

SBTi breaks scope 3 emissions into 15 categories.
Those applicable to Whitby Wood in 2023 were:



PURCHASED GOODS AND SERVICES **16.84 tCO_2e** *water treatment, IT equipment, supplies*

CAPITAL GOODS **15.23 tCO_2e** *meeting room construction, furniture*

FUEL + ENERGY ACTIVITIES NOT IN SCOPE 1 + 2 **0.93 tCO_2e** *transmission and distribution losses of electricity bills*

WASTE GENERATED IN OPERATIONS **0.16 tCO_2e** *First Mile waste collection*

BUSINESS TRAVEL **36.82 tCO_2e**

EMPLOYEE COMMUTING **13 tCO_2e** *based on employee survey*

DOWNSTREAM LEASED ASSETS **4.98 tCO_2e** *energy use for tenanted floor*

INVESTMENTS **20.97 tCO_2e** *banking*

ANTI-GREENWASHING

commitment to **TRANSPARENCY** in reporting

The Anti-Greenwash Charter

In November 2024, Whitby Wood signed up to **The Anti-Greenwash Charter** and published a **Green Claims Policy**.

The Charter focuses on transparent and trustworthy sustainability communications Signing is a demonstration of our commitment to upholding high standards of communications practice, based on the four standards outlined in the Charter: transparency, accountability, fairness and honesty.

Our Green Claims Policy defines the standards we adopt to ensure our sustainability claims are fair and substantiated.

SPECIFIED EMISSIONS

reporting on project structural **EMBODIED CARBON**

Our specified emissions are the emissions generated by projects for the **superstructures and substructures** (A1-A5) we designed. We began tracking results in 2020.

In 2024, we reviewed the published 2020 figures. They have been updated in line with current calculation methods for various materials. The new figures are worse than reported in 2020.

BUSINESS IMPACT

2020

TOTAL STRUCTURAL CARBON EMISSIONS	**28 mtCO_2e**
AVERAGE RATE	**266 kgCO_2e/m^2** *gross internal area*
AVERAGE SCORS BAND	**D** *Structural Carbon Rating Scheme : see SCORS table on page 23*
ACCOUNTABILITY	**528 tCO_2e/person** *53 people*
SEQUESTERED AVERAGE RATE	**0 kgCO_2e/m^2**

The 2024 reporting reflects changes in project structural typologies and sector mix, which has diversified:

2024

TOTAL STRUCTURAL CARBON EMISSIONS	**56.1 mtCO_2e**
AVERAGE RATE	**205 kgCO_2e/m^2** *gross internal area*
AVERAGE SCORS BAND	**C** *up one band on 2020 figures : see SCORS table on page 23*
ACCOUNTABILITY	**539 tCO_2e/person** *104 people*
SEQUESTERED AVERAGE RATE	**-25 kgCO_2e/m^2**

23% IMPROVEMENT IN AVERAGE RATE

METHODOLOGY

As we do not have accurate carbon accounting for every single project, the figures are based QA'd calculations for a representative sample. Full explanation in the end note at the end of this report.

SUSTAINABILITY WORKING PRACTICES

improving sustainability by adjusting **THE WAY WE WORK**

Engineering design procedures are constantly under review at all technical levels in relation to streamlining processes aimed at minimising project embodied carbon.

INTERNAL COMMUNICATIONS

Monthly **Sustainability Knowledge Share** sessions were held throughout 2024, open to all our people. Discussions can include: design and procedural innovations, emissions targets, industry advances, research implications and better ways to support clients and project teams in decision-making.

The practice **Sustainability Chat Zone** operates continuously, communicating climate and sustainability-related events, and facilitating debate.

DATA COLLECTION

Specified embodied carbon data is currently recorded in a centralised database, along with project size, materiality and structural principles. The recording system is under development for increased automation.

QA PROCEDURES

Our standard QA procedures include 3-5 targets to be reported against by each project to help us reach our embodied carbon and net zero goals. Projects now include early-day **Sustainability Kick-off** meetings, enabling pre-design phase examination of options. Example results include: efficient structural grid parameters, the production of materials maps focusing on local resources, charity engagement and exploiting the geotechnical features of the site.

TARGETS

We aim to halve by 2030 our $kgCO_2e/m^2$ specified on projects from our 2020 average. The data collection and QA systems are set up to meet the targets shown below. We plan to measure against them and discuss the results at Board level, to check that our business strategy aligns. These targets align with or improve upon those currently set by the Institution of Structural Engineers.

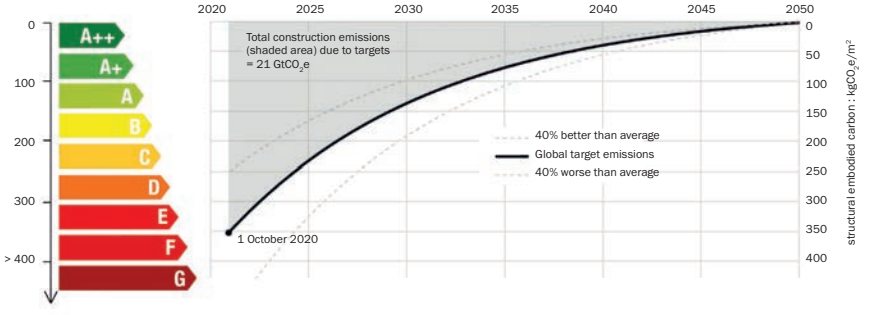
OUR PROJECTED SPECIFIED EMISSIONS AVE. RATES : Stages A1-A5, in $kgCO_2e/m^2$

year	2024	2025	2026	2027	2028	2029	2030
TARGET	**205***	**195**	**180**	**170**	**160**	**145**	**135**

*actual

IStructE : YEARLY DESIGN TARGETS

IStructE SCORS table and carbon targets if you start at 350 $kgCO_2e/m^2$ and reduce emissions by 10% each year



INDUSTRY IMPACT

PARTNERSHIPS AND RESEARCH

supporting and instigating **COLLABORATION**

LEADING CHANGE

— Collaborations with academia established through consortia such as UK FIRES

— With the university of Bath, supporting a current PhD on *What can be built from the zero carbon resource pool?*

INTERROGATING SUPPLY CHAINS

— Access to supply chains through trade memberships such as Alliance for Sustainable Building Products (ASBP), Steel Construction Institute (SCI), Concrete Society and Timber Development UK (TDUK).

— Participation by one of our directors in the UK Green Building Council's Supply Chain and Procurement Decarbonisation working group.

— Board membership of TDUK, which connects supply chains to specifiers.

— Membership of TDUK's Sustainability and Circular Economy committees which published the timber industry's route to zero with country-wide supplier input.

— A network of low carbon material suppliers with whom we work closely.

INSURANCE INDUSTRY

Through our involvement in the *Mass Timber Insurance Playbook*, we developed working relationships with insurance brokers and providers such as Gallagher, Marsh McLennon and Zurich Insurance Group — who cover buildings and building products. We regularly consult on projects that require early-stage input, and we share construction information relevant to insurance matters.

PAN-EUROPEAN OUTREACH

European outreach was leveraged through the Whitby Wood-led Optoppen research project on lightweight vertical extensions. See *The Optoppen Project*.

MEMBERSHIPS

ACCELERATING THE REUSE OF MATERIALS

THE ENGINEERS REUSE COLLECTIVE

We are a founding partner of The Engineers Reuse Collective, a not-for-profit initiative that came together in 2024, focused on accelerating the reuse of materials. The first of its kind in the UK, the Collective is supported by the Institution of Structural Engineers.

PARTNER ORGANISATION

ADVOCACY

construction industry issues **ACTIVE LOBBYING**

— Through Board membership of TDUK, lobbying government to adopt its *Timber in Construction Roadmap*.

— Through the Optoppen Project, engaging with UK authorities such as the City of London, Westminster City Council, Essex County Council and the Greater London Authority, plus a number of Spanish and Dutch authorities.

— Through the Institute of Structural Engineers, lobbying for the New Part L of the Building Regulations, ensuring the measurement and targeting of embodied carbon in construction.

— Through the Built by Nature Network, we connect to city planners, government officials, developers, and our design peers.

— Through engagement with the Irish Timber in Construction Working Group, providing information and examples on how other countries approach building using timber.

SHARING KNOWLEDGE

4 ROUNDTABLES

9 CONFERENCES

4 WEBINARS

6 EXPERT PANELS

4 PODCASTS + BLOGS

2 TOURS

THE OPTOPPEN PROJECT

PARTNER ORGANISATION

optoppen

optoppen.org

We led a Built by Nature grant-funded consortium of UK and European partners in the development of an open-source interactive website that enables city planners and asset owners to understand the vertical extension potential of their buildings, and access case studies and research.

60 project examples available
indicating **9%** additional floor area city-wide
5 city councils engaged
800 uses of the app in the first two months, from **41** countries
800 buildings assessed in the first two months
1,022 LinkedIn followers

Lightweight roof extensions — using timber and other bio-materials — increase existing building floor areas, and contribute to urban decarbonisation targets, densification strategies and more-efficient use of existing infrastructure.

SOCIAL VALUE

promotion of **SOCIAL/COMMUNITY IMPACT**

INDUSTRY IMPACT

Part of our impact on the industry and our general community, is that we encourage our people to take part in regular teaching and community activities. Several are trustees of industry-related charities.

We are constantly expanding our network in these areas and we consistently engage with built environment institutions and charities.

TEACHING

— We continue to regularly teach and mentor engineering and architecture students, covering topics such as timber design and materials circularity.

— We engage with primary schools to increase awareness of engineering and inspire the next generation.

6 CAREERS FAIRS

UNIVERSITIES OF BATH, BRISTOL, LEEDS, LOUGHBOROUGH, SHEFFIELD AND UNIVERSITY COLLEGE LONDON

VOLUNTEERING AND CHARITIES

— We support and encourage volunteering for charitable and community benefit through our volunteering policy.

— Charities supported during the year include: Crisis UK, London Youth Rowing, Construction & Development Partnership (CODEP), RedR UK and the Whitbybird Foundation.

— We collaborate with service provider Integrate to help match temporarily vacant commercial spaces associated with our projects with suitable charities in need of workspace.

— We provide space and facilities in the London office for arts-related events.

PARTNER ORGANISATIONS

redr uk people and skills for disaster relief

SCHUMACHER CENTER for a new economics

STEEL WARRIORS

CONSTRUCTION & DEVELOPMENT PARTNERSHIP

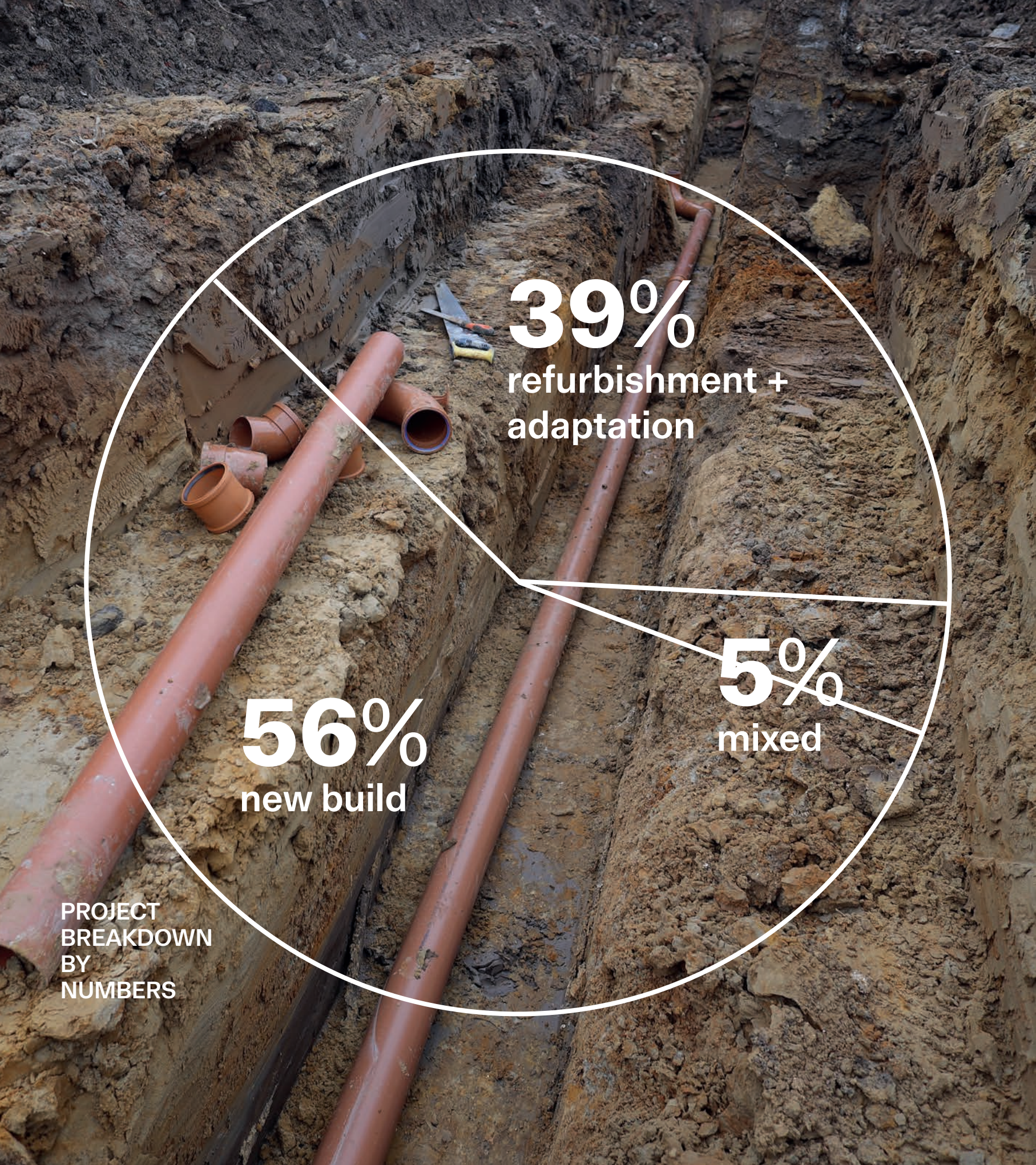
Whitbybird Foundation

TEACHING

DELFT UNIVERSITY OF TECHNOLOGY
THE ENGINEERING & DESIGN
INSTITUTE (TEDI)
READING UNIVERSITY
ROYAL COLLEGE OF ARTS
TEESIDE UNIVERSITY
UNIVERSITY FOR THE CREATIVE ARTS
UNIVERSITY OF BATH
UNIVERSITY OF CAMBRIDGE
UNIVERSITY OF EXETER
UNIVERSITY OF LEEDS

CAMDEN PRIMARY SCHOOL, LONDON
KERR MACKIE PRIMARY SCHOOL, LEEDS
MANORFIELD PRIMARY SCHOOL, LONDON

Jack Hobhouse



PROJECT BREAKDOWN BY NUMBERS

DESIGN IMPACT

As our services all relate to the design of structures and infrastructure, the biggest impacts we can make are in design efficiency, the relevance of our work to client goals and the effect projects have on their surrounding community and environment.

For a high quality service, we ensure that our engineers have a broad range of experience and can bring ideas to a project from different perspectives. Key to this is diversity — working with different teams, goals and constraints. We like to think differently, remain agile, work collaboratively and not be afraid to offer opinions.

Whenever possible, our engineers work together, blending our in-house services to provide joined-up comprehensive advice.

DESIGN IMPACT

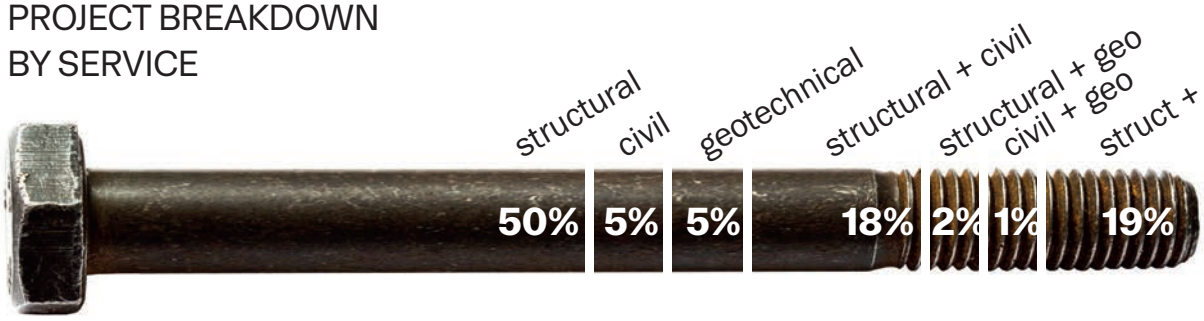
PROJECT DIVERSIFICATION

Over the last four years, the type of projects we work on has diversified. **44%** of projects in 2024 included a refurbished element. An aim in refurbishment is to minimise new structure, so less design time is required. Hours spent on them are less than the larger new-build developments.

2024

LIVE PROJECTS : YEAR START	**298** Oct 2023
LIVE PROJECTS : YEAR END	**279** *Sept 2024 — larger more diverse and later-stage projects*
CONSTRUCTION VALUE RANGE	**£5,000 – £600m**
TOTAL PROJECTS WORKED ON	**248**
ENGINEERING DESIGN	**98,352** HOURS
PROJECT **NUMBERS** BREAKDOWN	**56%** NEW BUILD / **39%** REFURB / **5%** MIXED
PROJECT **HOURS** BREAKDOWN	**75%** NEW BUILD / **21%** REFURB / **4%** MIXED

PROJECT BREAKDOWN BY SERVICE



DEVELOPING UPFRONT GUIDELINES

implementation of a **PLAYBOOK** approach for large developments

Playbooks are practical tools for creating site-specific hierarchies of design parameters, underpinning the development of project briefs and masterplans. They fundamentally inform the shaping of a development, combining aspects of construction industry activities with social impact.

In 2024, we developed this idea over a series of projects (national and international) into a comprehensive service and significant potential component of project kick-off processes.

WESTGATE VILLAGE PLAYBOOK / Dartford, Kent, UK / client : Dartford Borough Council / architect : Peter Barber Architects

ENABLING MORE-EFFICIENT BUILDING USE

lightweight **VERTICAL EXTENSIONS**

With the growing imperative to retain existing building frames as part of the general approach to decarbonisation, lightweight roof extensions have become an important element in our approach to refurbishment.
Many projects combine adaptation, retrofit, infill design and facade extension, as well as optoppen and advanced timber engineering.

The advantages include: increasing floor areas, contributing to urban decarbonisation targets and densification strategies, and more-efficient use of urban infrastructure.

ONE HUNDRED / Victoria Street, Redcliffe, Bristol, UK / client : V7 Asset Management for CBRE Global Investors, Beard Construction / architect : AWW

IMPACTS

REDUCING UNCERTAINTY FOR BROWNFIELD SITES

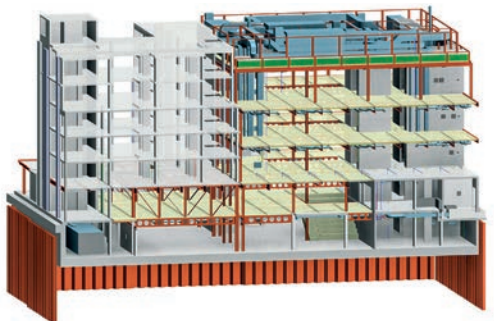
pin-pointing remediation costs of **LAND CONTAMINATION**

The cost of land remediation can be a big unknown in brownfield development, as in the early stages of projects there's no certainty on how contaminated a site may be. Our geotechnical team developed an early-stage approach that enables clients to engage with remediation contractors and secure fixed costs before pre-planning (RIBA Stages 1-2).

For the former Epsom Gasworks site, we developed a preliminary primary remediation optioneering strategy, then worked with the client in negotiations with specialist contractors pre-tender.

EPSOM GASWORKS REDEVELOPMENT / East Street, Epsom, Surrey, UK / client : Zenith Living / architect : Formation Architects

NAVIGATING BARRIERS



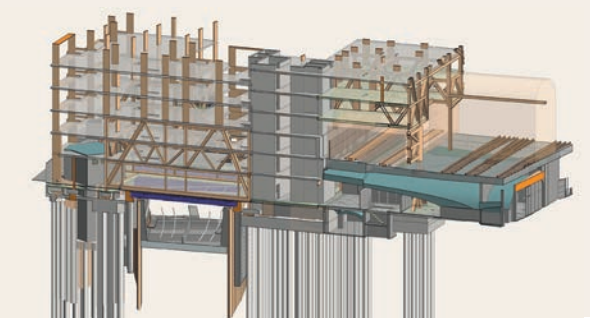
encouraging low carbon solutions through **NEGOTIATION**

Advocating more-sustainable options includes raising awareness, explaining achievability and exploring the advantages with clients. Our connections with the insurance industry often enable us to convince insurers to back timber construction. For the new teaching building at the University of East London, we successfully negotiated with the client for retaining timber elements in the tender proposals, following. insurance company queries.

UNIVERSITY OF EAST LONDON / Teaching Building, Stratford Campus, London, UK / client : University of East London / architect : Metropolitan Workshop

INTERDISCIPLINARY COLLABORATION

design workflow frameworks for close coordination on **COMPLEX SITES**



Geotechnical and structural engineering are always closely coordinated.

For highly complex urban sites — such as Royal Mint Gardens Aparthotel in the City of London, where a twelve storey building is being constructed over two live railways, and third-party assets such as tunnels, sewers and a heritage viaduct are involved — a comprehensive framework and design workflow for piling and ground movement assessment developed in collaboration with the structural analytical models enabled high levels of design precision and more-robust foundation design.

ROYAL MINT GARDENS APARTHOTEL / Tower Hill, London, UK / client : IJM Land / architect : BSBG London

INDUSTRIAL SHEDS : ENERGY PERFORMANCE UPGRADES

REDUCING COSTS FOR INDUSTRIAL ASSETS

Transformation and upgrade of industrial steel sheds was a significant part of the workload in 2024, and is a fast-growing area of our business. The aim is to improve the energy performance of building envelopes, and if required, introduce in-house electricity generation to lower operational impacts.

Surveys are undertaken to assess structures and confirm that appropriate residual capacity is available to support new elements — such as high performance insulated roof coverings, photovoltaics and/or new wall cladding. Full reports on portal frame analysis are provided.

In 2024, **6** sites in the west of England : energy performance improved for **3,414 m²**

Luke Hayes

CANADA DOCK BOARDWALK / Rotherhithe, London, UK / client : British Land in joint venture with AustralianSuper, then Galldris Construction
architect : Asif Khan Studio, Townshend Landscape Architects

PROJECTS

PROJECT HIGHLIGHTS 2024

As explained in the Governance section, the Group operates as a single international practice, organised as a group of companies based around the world. Projects can involve more than one company, and projects designed in the UK can be located outside the country.

In 2024, we worked on projects located in the UK, Europe, the Middle East, North America, West Africa and the Caribbean. Many of the international projects are subject to non-disclosure agreements and we regret that we cannot show them here. Enquiries are welcome.

It's a great privilege to be able to see clients' dreams come to fruition. The following pages show a selection of projects completed or under construction in 2024.

RESIDENTIAL • HOSPITALITY

Jack Hobhouse

ESCAPADE SILVERSTONE / Silverstone Circuit, Towcester, Northamptonshire, UK
client : Escapade Living, HG Construction / architects : Twelve Architects & Masterplanners

RESIDENTIAL • ADAPTATION

shedkm

ZODIAC / Croydon, London, UK / client : Common Projects / architects : shedkm, Fuse Architects

PROJECTS

HERITAGE

KING'S LYNN CUSTOMS HOUSE / Norfolk, UK / client : Borough Council of King's Lynn & West Norfolk / architect : Graeme Massie Architects

RESIDENTIAL • EXECUTIVE ENGINEER

THE PHOENIX / Lewes, East Sussex, UK / client : Human Nature architect : Ash Sakula Architects (Parcel 1)

COMMERCIAL • MODERN HERITAGE

Andy Stagg Photography

MOUNTBATTEN HOUSE / Basingstoke, Hampshire, UK / client : CField Construction for Longstock Capital / architect : Twelve Architects & Masterplanners

Andy Stagg Photography

MOUNTBATTEN HOUSE / Basingstoke, Hampshire, UK / client : CField Construction for Longstock Capital / architect : Twelve Architects & Masterplanners

EDUCATION

Grafton Architects

ANTHONY TIMBERLANDS CENTER / Fayetteville, Arkansas, USA
client : University of Arkansas / architects : Grafton Architects, Modus Studio, TWS Engineers

RESIDENTIAL

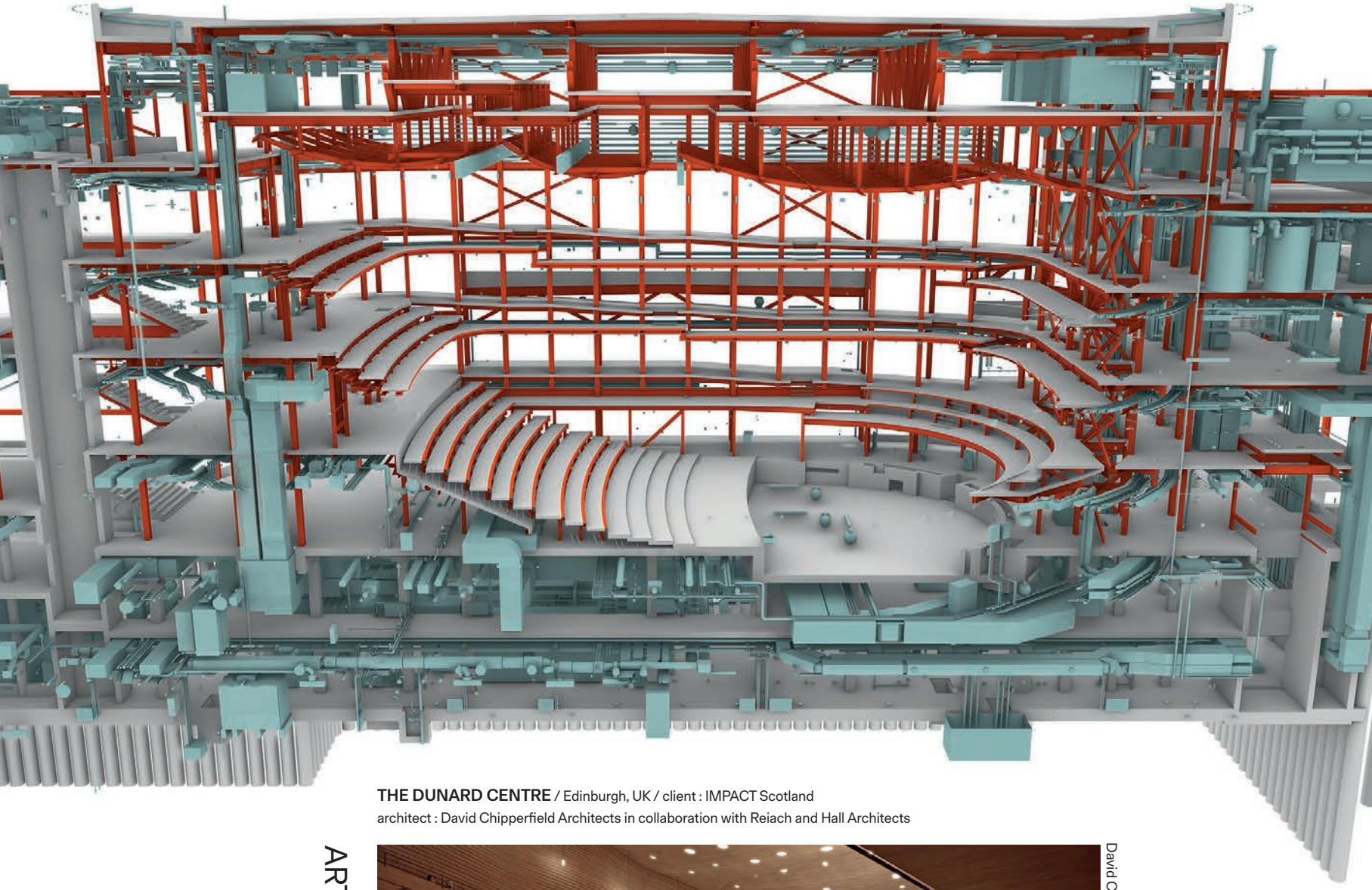
Jack Hobhouse

FOREST ROAD E17 / Walthamstowe, London, UK
client : Pocket Living, then Legendre UK / architect : Gort Scott

PRO
JECTS

RESIDENTIAL

FERRY ISLAND / Tottenham Hale, London, UK
client : Related Argent, Midgard / architect : Allford Hall Monaghan Morris



THE DUNARD CENTRE / Edinburgh, UK / client : IMPACT Scotland
architect : David Chipperfield Architects in collaboration with Reiach and Hall Architects

David Chipperfield Architects

PROJECTS

RESIDENTIAL

HUB

WEMBLEY LINK / Wembley, London, UK / client : HUB, Wembley Link LLP
architects : Howells, ColladoCollins

COMMERCIAL • REFIT + EXTENSION

ONE HUNDRED / Redcliffe, Bristol, UK / client : V7 Asset Management
for CBRE Global Investors, Beard Construction / architect : AWW

RESIDENTIAL

Paul Riddle

ONE ASHLEY ROAD / Tottenham Hale, London, UK / client : Related Argent
architects : Alison Brooks Architects, KDS

GREENWICH DESIGN DISTRICT / Greenwich Peninsula, London, UK
client : Knight Dragon / architects : HNNA, 6a Architects, Architecture 00, Barozzi Veiga, David Kohn Architects, Asif Khan Architects, Mole Architects, Selgas Cano

Taran Wilkhu

PRO JECTS

YARDHOUSE

Hammersmith, London, UK

CLIENT
Women's Pioneer Housing

HOUSING CHARITY HQ
+ ACCOMMODATION

ZODIAC

London Road, Croydon, UK

CLIENT
Common Projects

HOUSING HOMELESS
FAMILIES
— COUNCIL CONTRACT

WYLD SAUNA LIVERPOOL

Princes Dock, Liverpool, UK

CLIENT
Wild Wellness Projects

FIRST FLOATING PUBLIC
SAUNA IN THE UK

OPEN AIR THEATRE AND PAVILION

Church Lench, Worcs, UK

CLIENT
Lenches Sports &
Recreation Club

PRO BONO

SOCIAL VALUE

Many of our projects add social value to their surrounding areas or have positive community impact built into their planning. The projects shown here are significant examples from 2024.

END NOTE

SPECIFIED EMISSIONS METHODOLOGY

We don't have accurate carbon accounting for every project at present. The **specified emissions** figures in this report are based on the following methodology. Sequestered carbon is reported separately.

— Take stages A1-A5 (materials manufacture and acquisition, and construction)
— Select a representative sample of on-site projects for detailed Quality Assurance counts
— Use the sample results to calculate the average rate, and report the SCORS rating
— Apportioned to the associated fees to the average rate and scale up in line with our turnover (or projected turnover), applying a rate for projects that get built or design stages that repeat

PROJECTIONS

When we set the task in 2020 of halving specified carbon emissions by 2030, in order to measure progress, we had to define 'half' (as well as work with limited data). The particular approach we took continued to be used in 2024.

Taking current early-stage designs and projecting their specified emissions for when they get to site, the figures calculated seem to be flat-lining or getting worse as we grow (see graphs).

In reality, our record has improved between 2020 and 2024. However, data collection and our approach both need improvement.

To make things simpler, we are targeting the following specified emissions average rates for the years indicated. The targets will be reported-against as part of the Quality Assurance system. We are developing in-house apps that will record a much larger dataset, enabling a more-accurate picture.

PROJECTED SPECIFIED EMISSIONS AVERAGE RATES : Stages A1-A5, in $kgCO_2e/m^2$

YEAR	2024	2025	2026	2027	2028	2029	2030
TARGET	**205***	**195**	**180**	**170**	**160**	**145**	**135**

*actual

CARBON-RELATED TERMINOLOGY

For explanations of embodied carbon and operational carbon, and how we calculate them, go to **whitbywood.com/carbon/**

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