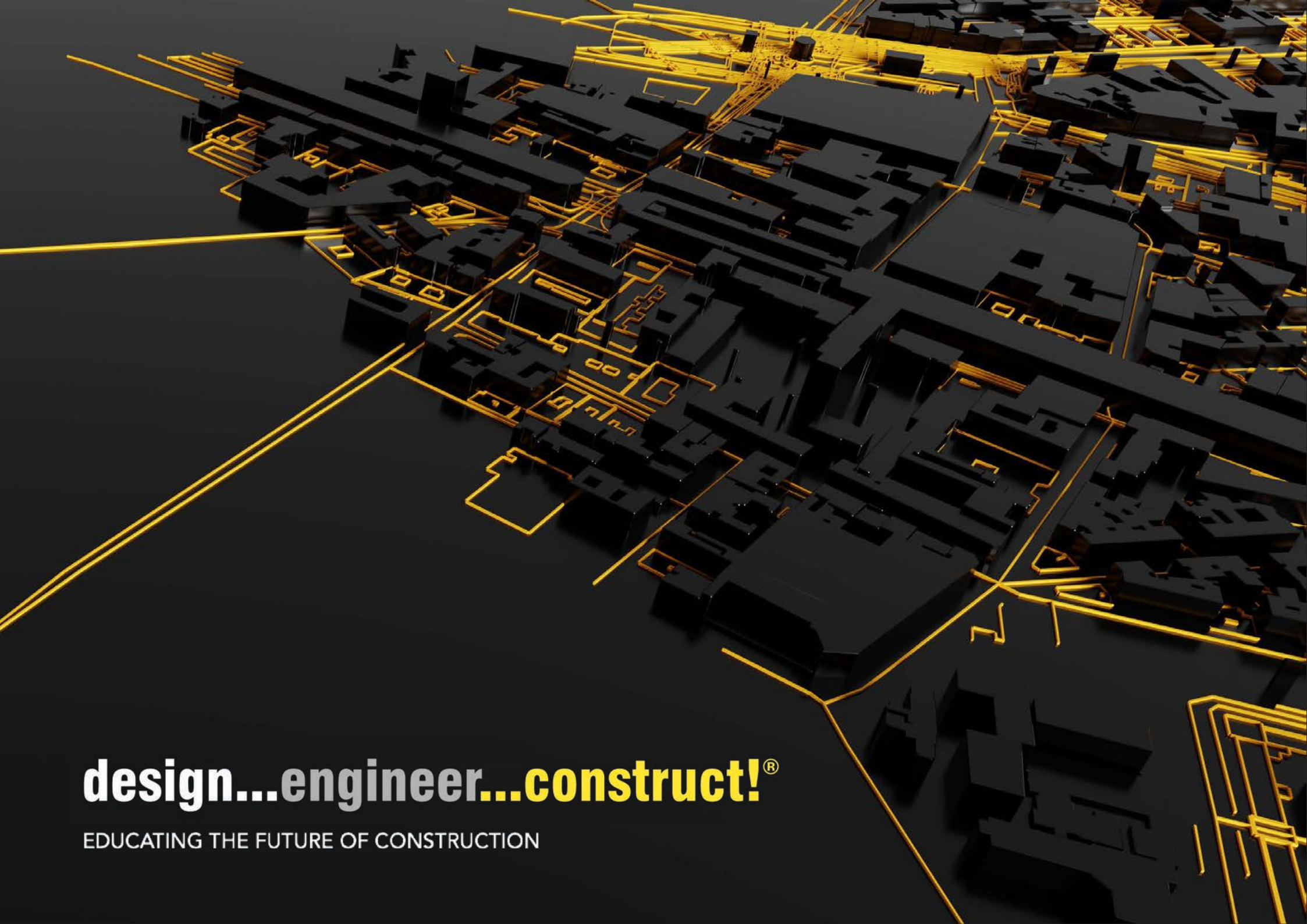


design...engineer...construct!®

EDUCATING THE FUTURE OF CONSTRUCTION

At Class Of Your Own, we care an awful lot about the development and progression of our learners and our teachers. But it goes way beyond that.

When COYO was established, we started with a number of core principles that are at the heart of everything we do. **Happiness. Kindness**. **Empathy. Respect. Integrity. Optimism.**

We believe in the power of education and have a genuine aspiration to make the world a better place. Every decision we make is based on "is this good for our children?" If the answer is 'yes', then it's easy. If we're not sure, we go out to our family of learners, teachers, industry and academic supporters, and spark a healthy debate.

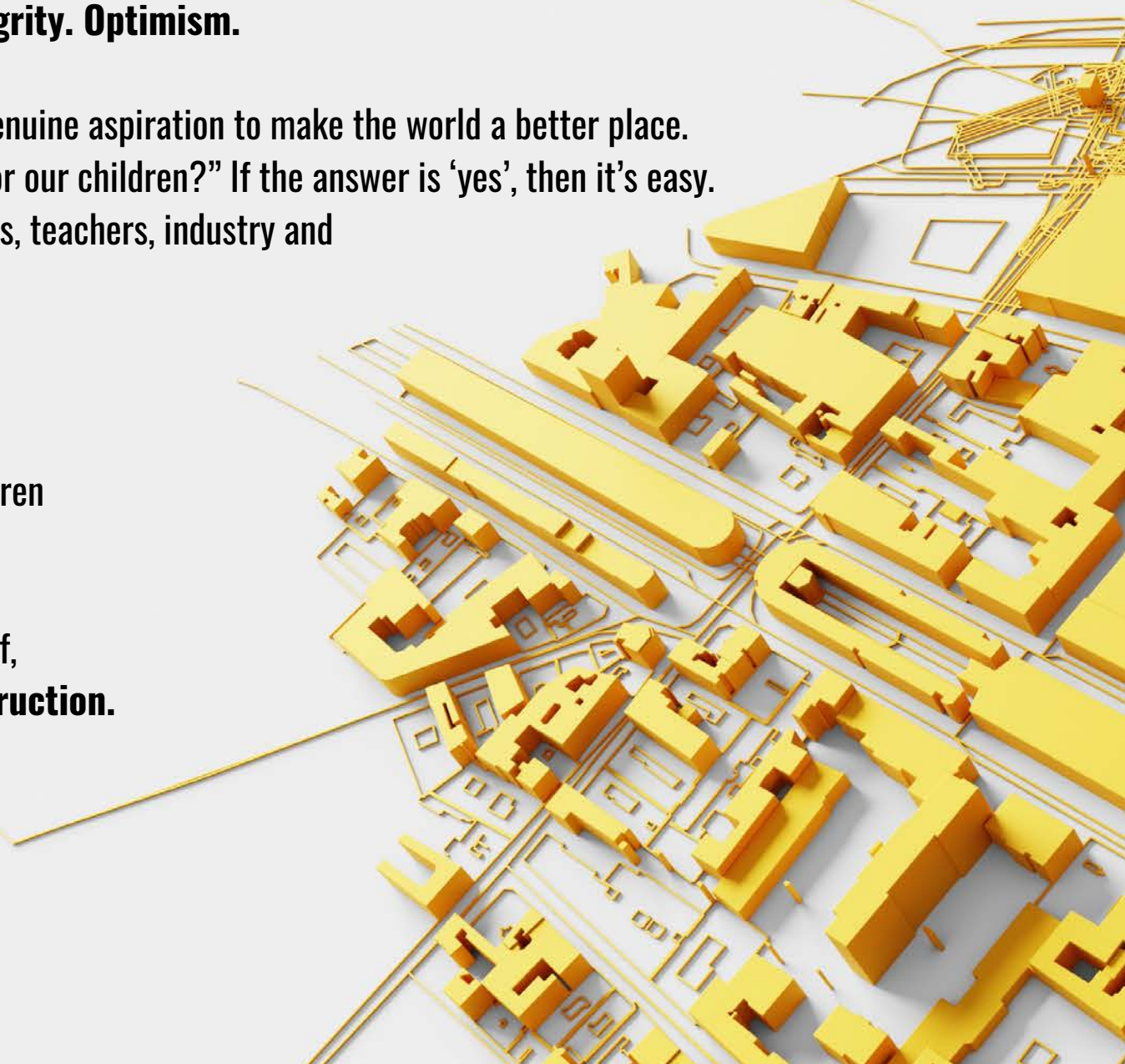
We listen. We learn. Together.

When we succeed, so do the teachers and the children and young people for whom we exist.

If this sounds like a culture you want to be a part of, join our mission to **Educate the Future of Construction.**

Let's Design...Engineer....Construct!

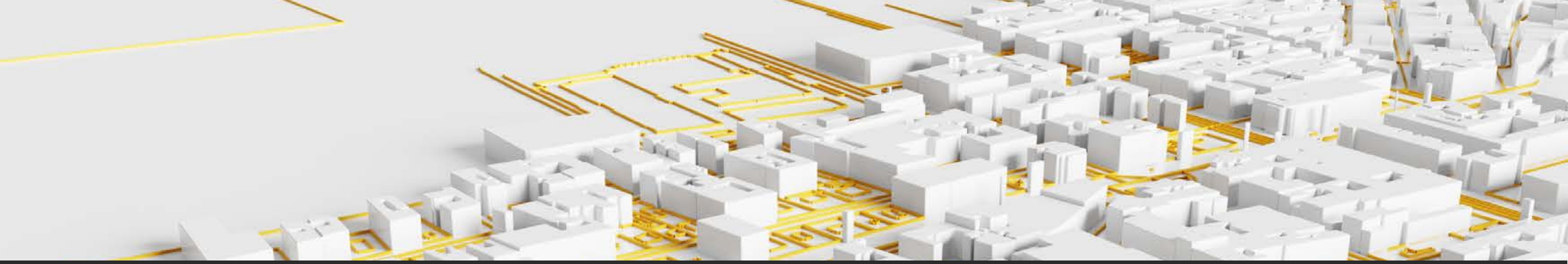
Alison Watson
Chief Executive
Class Of Your Own (COYO)



Contents

"This programme has refreshed my approach to teaching as I can see a real benefit and purpose to delivering a subject that gives genuine life opportunities."

Stewart Elson
Subject Leader for DEC
Le Rocquier School, Jersey



"I learnt a whole lot more about the industry and it has sparked my interest into the prospects of a future career in that direction. I'm really glad I got to be a part of the course as it has widened my knowledge, given me a bit more self confidence and it also looks great on my CV."

14-year-old DEC Virtual Work Experience student
Boclair Academy, Dumbarton, UK

Background

For more than a decade, UK education consultancy and social enterprise Class Of Your Own ('COYO') has inspired children to experience the digital Built Environment through the 'Design Engineer Construct!' ("DEC") Learning Programme.

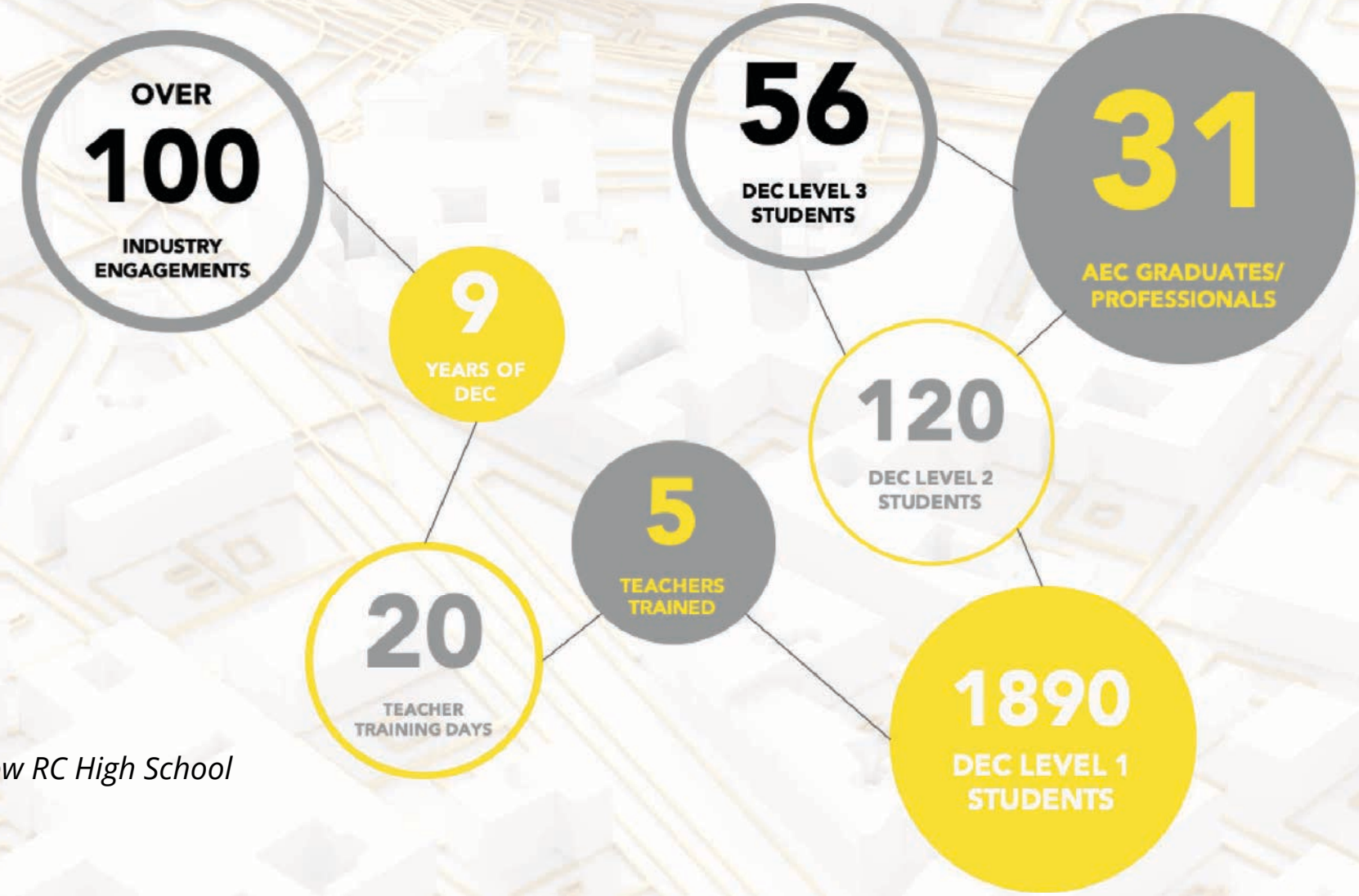
Children and young people are provided with a unique opportunity to develop the knowledge, competencies, behaviours and skills fundamental to successful engagement in the professional aspects of architecture, engineering and construction. Students advance their digital skills throughout the learning programme, including the use of digital modelling and analysis tools using industry standard software for building and infrastructure design.

Aligning with the Sustainable Development Goals, the themes of social, environmental and economic sustainability run throughout the programme, and learners discover how to minimise their own and their community's impact on the planet through role play and project based learning. **They understand the value of inclusivity and diversity, designing for a world where everyone matters.**

'Design Engineer Construct! The Digital Built Environment'
is a building design focused learning programme for students age 11-18 years and comprises three levels, each leading to regulated qualifications, from foundation Level 1 to intermediate Level 2 and advanced Level 3 (which attracts full UCAS points for university access and degree apprenticeships).

'Design Engineer Construct! Future Infrastructure'
focuses on major economic and social infrastructure projects around the world and is aimed at students age 16 and older, including foundation level study at colleges and universities.

Impact of DEC at one school



Case Study:
St Ambrose Barlow RC High School
Manchester, UK

Teaching Design Engineer Construct!

Most of our DEC Teachers had no prior experience of the Built Environment. DEC is taught by teachers of Design Technology, Maths, Art and Geography teachers. Even English teachers get involved.

At Class Of Your Own, we pride ourselves on the support and training we give to teaching professionals - behind every great DEC student, there is a great DEC teacher.

We provide:

- Access to a network of experienced DEC teachers (and their students!)
- Bespoke 'DEC Central' online learning and teaching platform
- Professional face-to-face training in DEC delivery and digital technology solutions
- Access to industry professionals to support classroom learning and teaching
- Mentoring, workshops and CPD programmes
- Industry work placements for teachers
- Dedicated Awarding Organisation support through our partners TQUK

DEC inspires and raises the aspirations of young people to consider Construction and the Built Environment as a valuable career path. All learners discover real-world applications of science, technology, engineering and maths and can access a whole range of exciting professional career pathways through our strong industry and academic links.

"It is incredible to see students striving for success and being inspired to pursue exciting careers in the construction industry from such a young age."

Katie Holland
Teacher of DEC (Primary KS2)
Shrewsbury International School, Bangkok

DEC CENTRAL & Teacher eTraining

DEC CENTRAL

Tried and tested by our teachers and students, our 'DEC Central' online learning and teaching platform is intuitive, easy to navigate and engaging. DEC programmes can be accessed through the platform on any device, offering users a 'one-stop-shop' and a modern, flexible way of learning that can cut training time significantly.

Furthermore, DEC Central has enabled those in remote areas to access the same high standards of teaching and learning that we find in all our DEC schools.

DEC Teacher eTraining courses

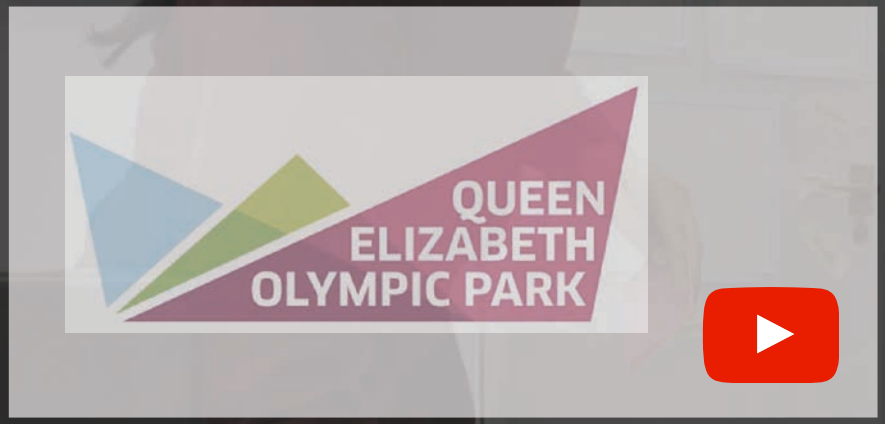
COYO has developed a series of eTraining and 'Bootcamp' courses that are CPD accredited.

All courses are delivered entirely online, offering flexibility and convenience to busy teachers.

Courses include "Offsite Ready"; a programme that provides entry level training to those new to the Offsite Manufacturing process, and our DEC CONNECT "A Home for Everyone" Award, which focuses on the design of an inclusive house.

Watch our videos and hear from our teachers, students and supporters...

Our work with the Government of Jersey 'Skills Jersey' team and local schools and companies to build a legacy education programme with pathways from school to university and employment: https://youtu.be/4W7UsFmeAbg



Our work with the London Legacy Development Corporation - a strategic partnership to offer profound opportunities to children and young people living around the Queen Elizabeth Olympic Park: https://youtu.be/q0GVx_UU2Cw

Our work with Bentley Systems to develop the 'Future Infrastructure' programme, aligning curriculum to major projects including advanced transportation, logistics, energy and communication: https://youtu.be/TxHKGT_JBNI

The Eco Classroom Workshop

Where it all started....

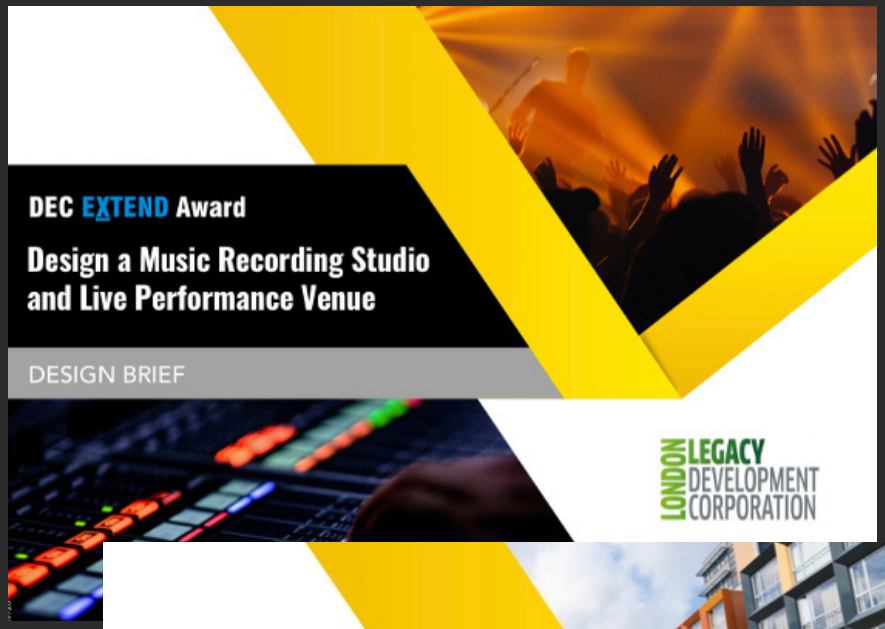
In 2009, Class Of Your Own created an engaging workshop to inspire young people to explore Built Environment careers as part of a national school design programme.

Well-established as an independent Careers and Enterprise event, or a part of the Design Engineer Construct! Learning Programme, the Eco Classroom workshop is a great way for industry professionals to engage teachers and learners.

The workshop tests the ability of young people to work together collaboratively to produce a great design for an Eco Classroom environment, instilling the ethos of a sustainability-focused business across the team, and ultimately providing an exceptional resource for the local community to live a more sustainable life.

Students work alongside a range of professionals including sustainability experts, architects, surveyors, landscape architects, construction business managers and facilities managers (to name but a few!).

The day lends itself to lots of cross-curricular links and we encourage teachers to take on an appropriate supporting role. Maths teachers can support the Surveyors through measurement and calculation; Science and Geography teachers will find strong links to the natural environment and energy efficiency when supporting Landscape Architects. Art and Design Technology teachers, and teachers of Construction and Engineering, can support the Architects, and English, Business Studies, Humanities and Citizenship are ideal specialisms to support the Management team – the Company Director, the Sustainability Officer and the Marketing and Brand Managers.



DEC CONNECT Award

DEC EXTEND Award

DEC Connect & Extend Awards

With the support of a host of world-class industry partners, Class Of Your Own has created a range of small, introductory STEAM projects to inspire students to think like Architecture, Engineering and Construction professionals through a range of project-based learning challenges.

Children and young people learn how to design, engineer and construct a range of exciting, extraordinary projects, from spy-themed hotels, recording studios and live music venues, to village schools in Africa.

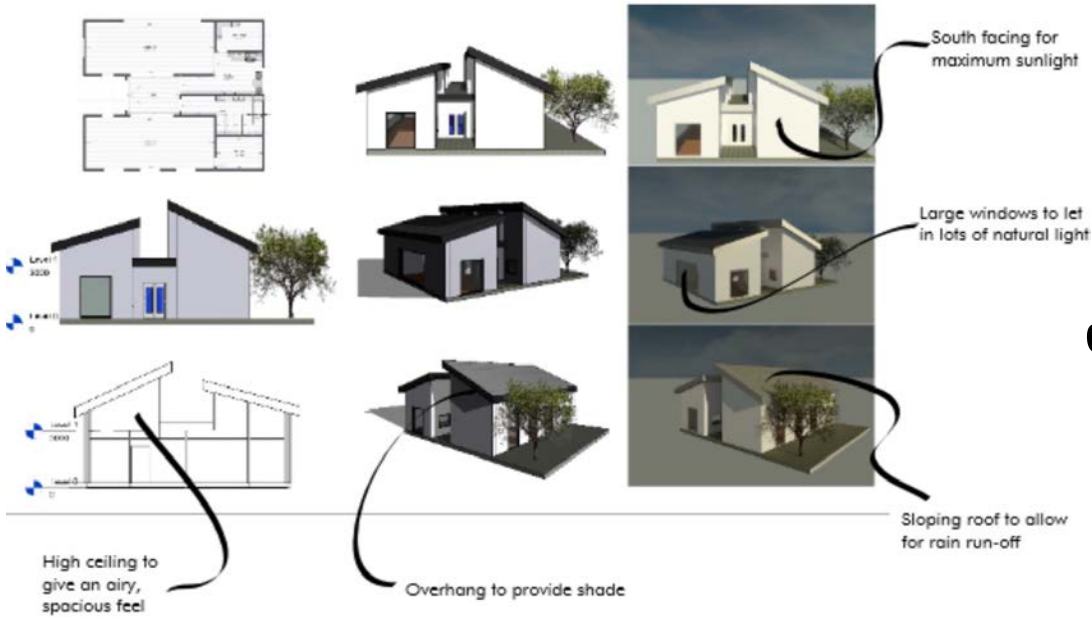
DEC Connect and Extend Awards can be used in school clubs as enrichment activities or indeed within the existing STEAM curriculum. They also provide an ideal opportunity to prepare for the Design Engineer Construct!® Learning Programme. The Awards are flexible, designed to be adapted to the needs of each school and its learners, and are assessed by the teacher, employing our easy-to-use Assessment Criteria. Each Award comes with its own Project Brief, a comprehensive Scheme for Learning and an endorsed certificate for each successful learner.

DEC Connect Awards are entry level design challenges for learners with limited experience of the Built Environment. This award would typically, but not exclusively, be suitable for learners up to 14 years of age.

DEC Extend Awards are progressive design challenges for older students or those with some experience of the Built Environment. This award would typically, but not exclusively, be suitable for students between 14 and 18 years of age and can also be used to teach digital engineering alongside trade and craft-based qualifications in further education settings.

DEC CONNECT Award

DEC EXTEND Award



Level 1 portfolio - Olivia, Kinross High School

DEC Level 1 - Foundation

DEC Level 1 - Foundation

Design Engineer Construct! Level 1 is an introductory timetabled programme for learners looking to explore professional practice in the digital Built Environment and provides excellent foundation learning for progression to Level 2.

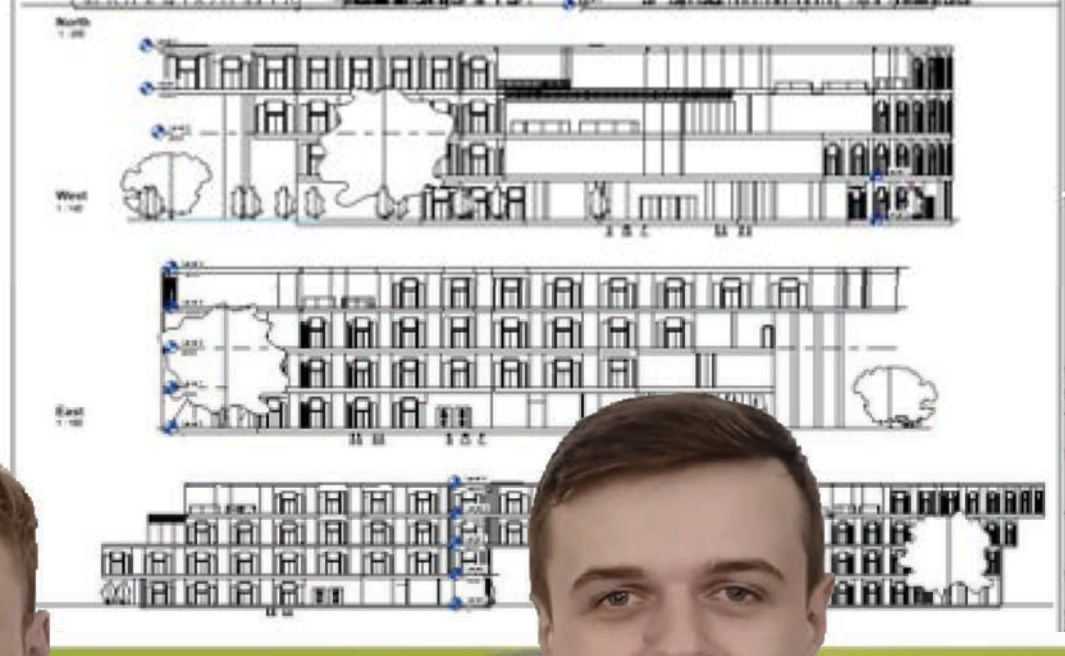
The design brief requires learners to create a small, community focused 'Eco Classroom' - a highly sustainable and inclusive building that offers flexible use to teach local communities about everyday environmentally-friendly living.

Learners can use an area of their existing school grounds as the 'building site' location, enabling ease of access to a safe, outdoor space. They explore key topics such as spatial requirements, orientation and access and carry out relevant industry practices such as marking out the position and orientation of their building.

Learners are empowered to take ownership of their own project and we recommend they are also given the opportunity to liaise with their 'client' – the local community itself - through the involvement of learners' families, teachers and governors.

In the Level 1 programme, learners develop and deliver a fit for purpose, functional design. They learn through the medium of their existing school and their home, taking on the roles of key Built Environment professionals such as architects, building services engineers, land and quantity surveyors, town planners and facilities managers.

Where possible, we recommend learners are given access to professional volunteers e.g. through the Class Of Your Own's industry partnership scheme and/or Professional Body outreach programmes.



DEC Level 2 student Daniel Bateson
St Ambrose Barlow RC High School
Now: Degree Apprentice - Digital Engineering
Laing O'Rourke & Liverpool John Moores University

DEC Level 2 student Matthew Bateson
St Ambrose Barlow RC High School
Now: Advanced Apprentice - Civil Engineering
Mott MacDonald

DEC Level 2 - Intermediate

DEC Level 2 - Intermediate

Design Engineer Construct! Level 2 is an intermediate programme for learners looking to increase their knowledge of professional practice in the digital Built Environment and provides an excellent opportunity to advance knowledge gained at Level 1 and extend knowledge and practice required to progress to Level 3 and the Future Infrastructure Programme.

The Design Brief is to create a building the community needs. It empowers learners to take ownership of their own project and follow modern digital industry processes to develop, design, deliver and evaluate a fit for purpose, functional building. Their community-focused building should be highly sustainable and inclusive, to be used by the local community.

Building types they might consider are:

- Community Health Centre
- Scout and Guide Hut
- Nursery/Childcare Centre
- Community Sports Centre
- Equine Centre

As in Level 1, learners can use an area of their existing school grounds as their 'building site' location, or can access a site near to their school where escorted visits can be arranged (for example facilitated by COYO's industry partners).

Again, we encourage forging strong relationships with the local community in order that learners can access a 'real client', creating opportunities to learn about local issues, explore diversity and inclusion, obtain critical feedback and to build their confidence and improve presentation skills.

DEC Level 3 student Freya Corkhill-Cantwell
Cronton Sixth Form College
Now: Degree Apprentice - Project Management
University of Lancaster

DEC Level 2 and 3 student Christopher Jackson
King Ecgbert School
Now: full-time Civil & Structural Engineering
University of Sheffield

DEC Level 3 - Advanced

DEC Level 3 - Advanced

Design Engineer Construct! Level 3 is an advanced programme for learners looking to increase their knowledge of professional practice in the digital Built Environment and provides an excellent opportunity to advance knowledge gained at Level 2 and extend knowledge and practice required to progress to the professional workplace and/or university.

Learners develop, design, deliver and evaluate a fit for purpose, functional building based on their own interpretation of a 'real' project brief. This brief can be obtained from a range of sources, for example a local project where access has been provided by industry professionals known to the school.

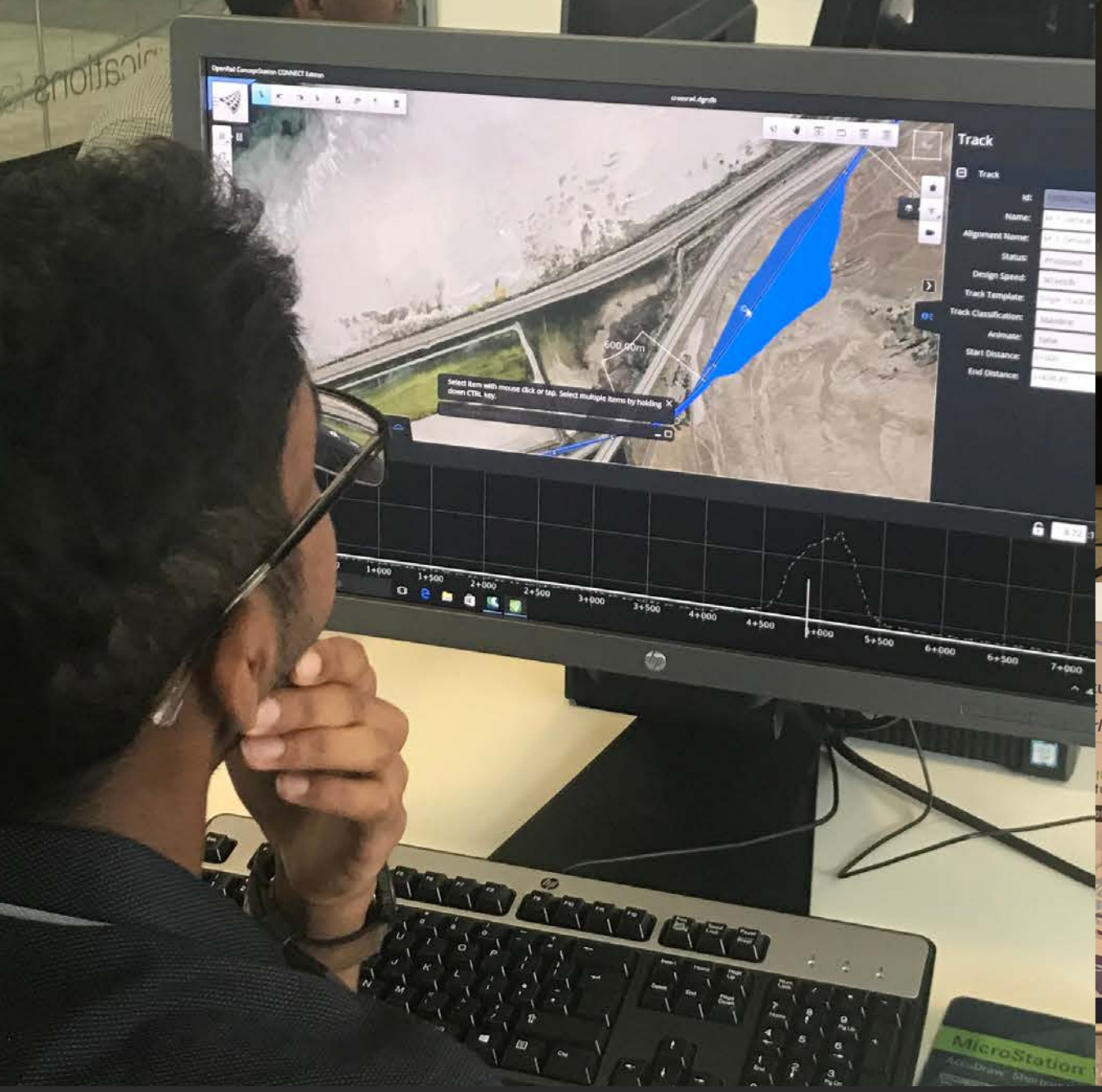
Their building should be highly sustainable and inclusive and enable learners to demonstrate advanced knowledge and use a range of industry process and digital skills.

Building types they might consider are:

- Office Blocks
- Retail Units
- Housing
- Outdoor Activity Centres
- Mixed-use Developments
- Schools for Special Educational Needs

Learners can use an existing site as the 'building site' location of their building and/or use web-based mapping tools and other technology platforms to access a range of industry specific site information.

DEC students operating at Level 3 produce a sizeable portfolio and explore more advanced elements of building design, for example geospatial surveying techniques, lifecycle analysis, financial planning and structural detailing.



Drummond Community High School team - winners of the 'Future Infrastructure Challenge: DEC Hyperloop'

DEC Level 3 - Future Infrastructure

DEC Level 3 - Future Infrastructure

In 2018, Class Of Your Own and Bentley Systems, the leading global provider of advanced infrastructure software solutions, invited four teams of U.K. DEC students to design a hyperloop station for their home towns.

The students made sustainable design their top priority and explored the economic, environmental and social impact on their local area and routes to Edinburgh or London.

In April 2019, with the support of leading international consultants WSP, Arup, Rogers Stirk Harbour & Partners and Turner & Townsend, each team was given just one day to take their ideas and conceptualise the design of a hyperloop transport system and station for Singapore.

After presenting to a panel of esteemed experts, Edinburgh's Drummond Community High School team was chosen as the overall winner. Their efforts resulted in a complimentary trip to Singapore to attend Bentley Systems' annual "Year in Infrastructure" conference where the team received a special award and a standing ovation from an audience of professionals at the conference dinner.

This work formed the basis of COYO's newly launched "Design Engineer Construct! Future Infrastructure' programme.

Focusing on major economic and social infrastructure projects, DEC 'Future Infrastructure' is a student-led research programme of study, designed to complement and broaden the Advanced Design Engineer Construct! experience.

The programme paves the way for further study and employment by enabling learners to harness ever-changing technology advancements across a range of infrastructure contexts, including Highways, Rail, Hyperloop, Ports, Airports, Buildings (e.g. schools, stadia and hospitals), Energy, Communications and Smart Cities.

Students investigate a range of compelling topics, such as cyber security in the management of digital assets, assessment and interpretation of digital twin concepts, the use of point cloud data to produce a reality captured model and the impact of Machine Learning and Artificial Intelligence on Infrastructure in the future.

They develop a range of project administration, coordination and communication skills and apply regulatory and quality standards to complex scenarios while recognising and addressing the impact a major project will have on the local and global environment.

"DEC gave me an insight into the industry and what is expected of me.

Not only did the course show me what the industry is like, it gave me the opportunity to get a step ahead in the type of work I needed for my university course."

DEC Level 2 and 3 student Arnaldo Sanha graduated from Heathcote School and Science College, one of COYO's London Legacy Development Corporation partnership schools.

Arnaldo is now studying Architecture at Newcastle University

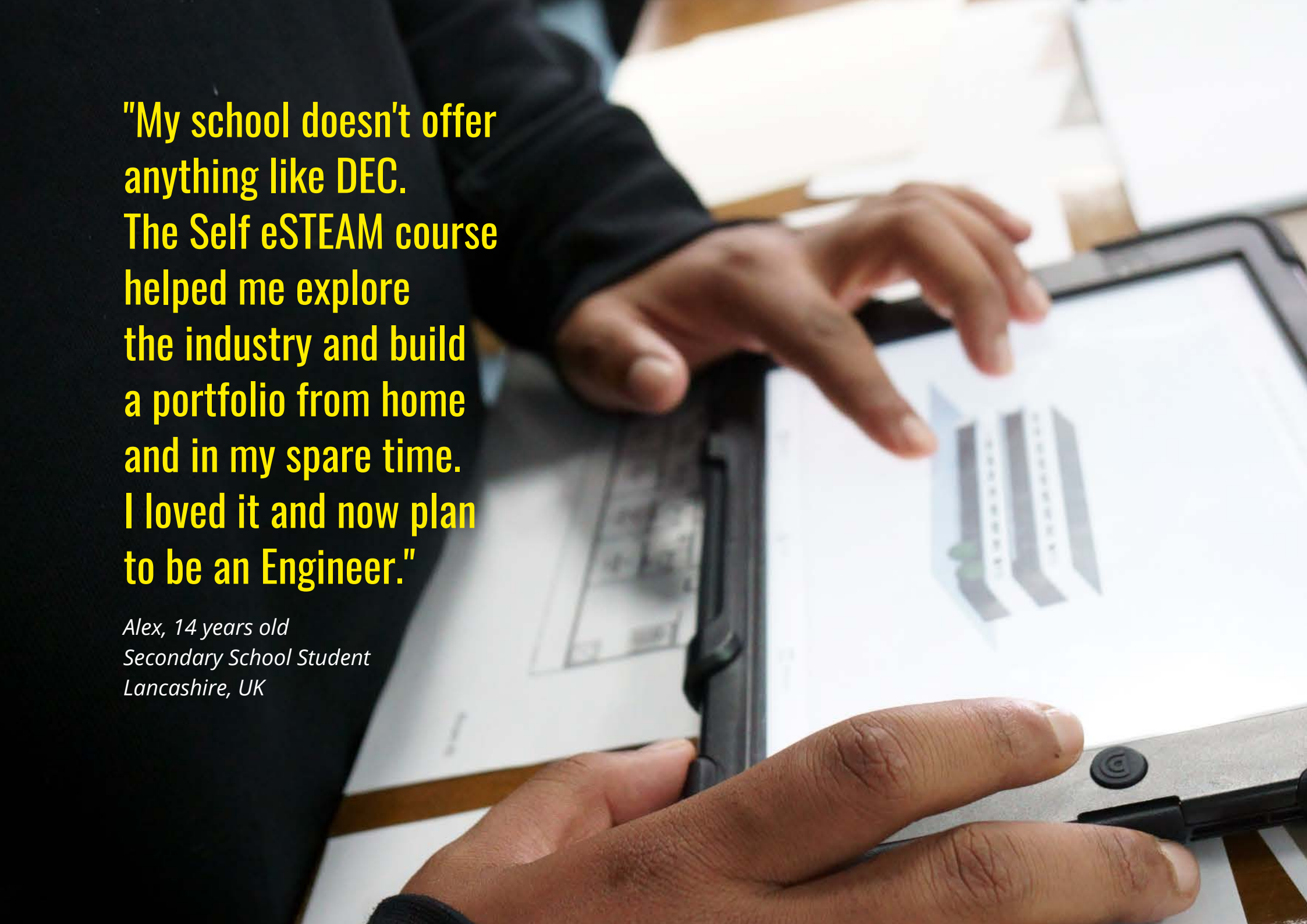
"Heriot Watt University fully support the DEC learning programme and have been delighted to participate in lessons and activities.

Our staff and students have been blown away by the work of the young talented DEC pupils and it's been inspirational for all involved."

Professor Fiona Grant
Associate Principal (Student Learning Experience)
School of Energy, Geoscience, Infrastructure and Society (EGIS)
Heriot Watt University

Heriot Watt University published research that demonstrates the value of engaging industry and academia in school curriculum.

*Click **here** to read the report.*



"My school doesn't offer anything like DEC. The Self eSTEAM course helped me explore the industry and build a portfolio from home and in my spare time. I loved it and now plan to be an Engineer."

Alex, 14 years old
Secondary School Student
Lancashire, UK

DEC Self eSTEAM

for Home Learning

All of our DEC CONNECT and EXTEND Awards are now available as online courses for home learners of all levels. Whether it is extending knowledge of the built environment, experimenting with new digital skills, exploring potential career pathways or developing design portfolios, home learning has never been so exciting!

Learners are guided through our Self eSTEAM courses by an experienced DEC teacher and each course contains structured lessons, complete with multiple choice course assessments, to ensure understanding. The learners can access helpful resources to aid the planning, research and development of their project and when complete, upload their written report at the end of the course.

Successful learners will receive a DEC CONNECT or DEC EXTEND Award endorsed certificate via our partner Awarding Organisation, TQUK.

DEC CONNECT Award

DEC EXTEND Award

"What was most impressive was how the students managed to absorb the knowledge we'd provided and used it to produce genuinely impressive projects. I can see myself interviewing some of them in the future!"

Ben F Burgess
Associate Director
Buro Happold – Acoustic Engineering

Real or Virtual Work Experience – Made Easy!

Our full range of DEC Awards are also available for use as work experience programmes. These can be delivered online, in a virtual environment (VWex), or more traditionally in the office (Work Experience Made Easy).
We can tailor existing awards to an employer's needs or create bespoke programmes for specific projects.

VWEx

Our accredited Virtual Work Experience programme provides students with a unique opportunity to complete a work experience placement whether they are based at home or in school.

Class Of Your Own partners with industry and academia to offer students access to a high-quality experience using a combination of short films, presentations and live discussions. Students produce a portfolio of work including digital or paper-based design, and are able to develop key knowledge, and employability, technical and business skills needed for a career in architecture, engineering and construction.

Collaborative team-working and access to sector professionals is made possible in a way not normally achievable from the classroom or the construction site, marking a step-change in the way we deliver work experience to inspire the next generation of built environment professionals.

Work Experience Made Easy

Our five day 'off the shelf' programme is designed to help an employer deliver a worthwhile week of work experience. Employers can select one of our DEC CONNECT or EXTEND Awards as the context for the week.

The 'Work Experience Made Easy' comprehensive programme framework provides structured guidance for each day, including exercises to help students identify their strengths and discover more about a range of technical and professional career paths and active tasks to maintain student interest when meeting staff or work shadowing.

Supported by the world's most respected organisations, including:

TOPCON

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Bentley

HERIOT WATT UNIVERSITY

Virgin hyperloop one

Buro Happold

Balfour Beatty

LONDON LEGACY DEVELOPMENT CORPORATION

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