



ESTEEM

TEAM ESTEEM

PRESS KIT - 2021

PRIDE IN WHERE, AND HOW, WE LIVE

- @teamesteem2020

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ESTEEM

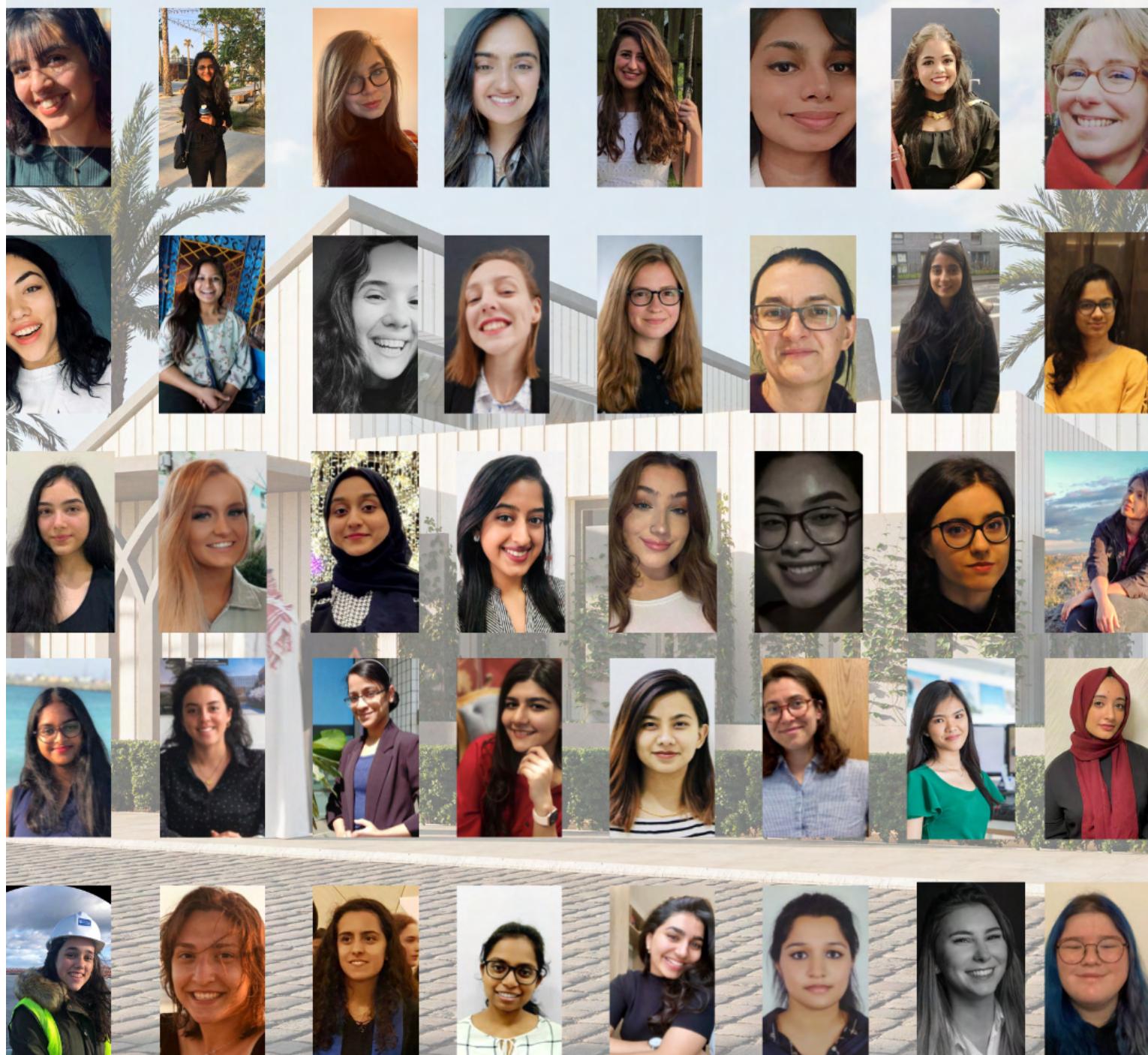
HERIOT
WATT
UNIVERSITY

دِيَكَالُون الطَّافِة الشَّمْسِيَّة
SOLAR DECAHTLON
MIDDLE EAST | الشرق الأوسط
DUBAI, UAE 2021 | دُبَي، الْعَرَبِ الْمُتَّحِدة

OUR TEAM - OUR HOUSE - TEAM ESTEEM

PRIDE IN WHERE, AND HOW, WE LIVE.

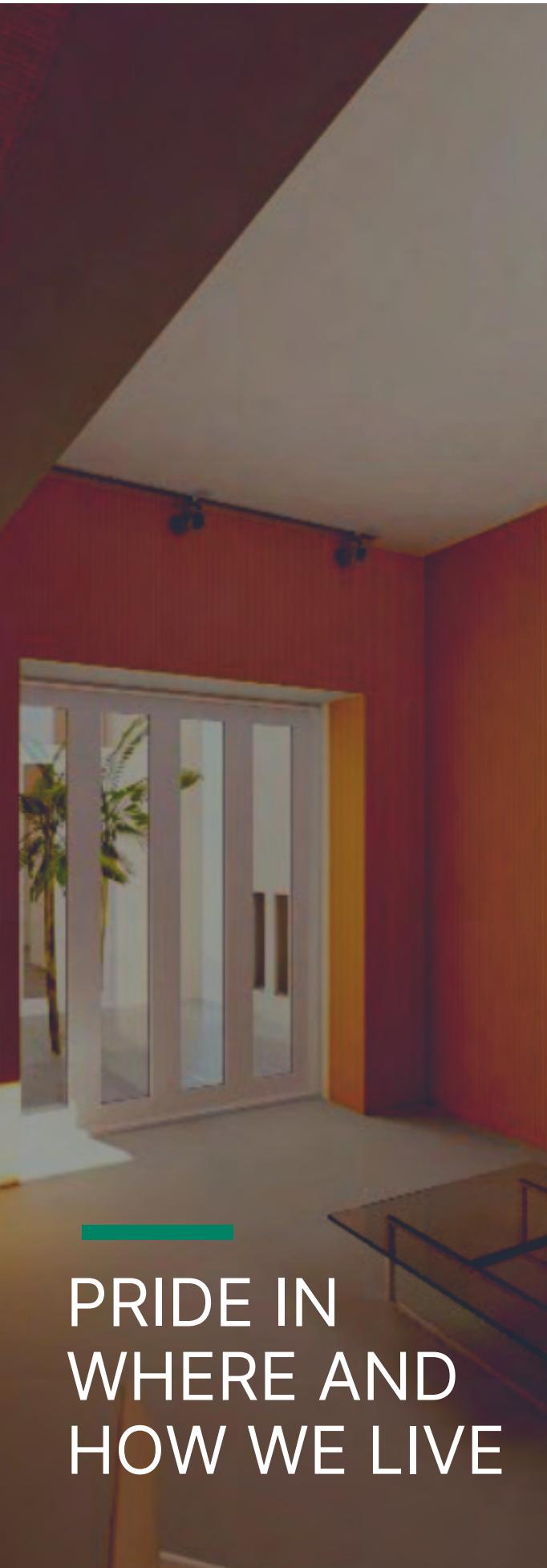




WOMEN ENGINEER STUDENTS & GRADUATES

We at Team ESTEEM, aim to promote and support women studying in STEM related fields and believe we as the human race can put forth our women to pivot the world's scientific trajectory. We encourage our woman to be fearless as they advance throughout the rollercoasters of their careers. We assist various companies in attracting and hiring their women workforce. Furthermore, we put forth our best efforts to positively impact society and organizations around the world to put up an example as role models for young girls to join STEM.

ABOUT ESTEEM



We are Team ESTEEM from Heriot-Watt University Edinburgh, a student team participating in the world's largest design and construction competition, the Solar Decathlon Middle East (<https://www.solardecathlonme.com>). Our aim is to build an innovative house of the future powered solely with solar energy. We are the only UK entry and we have team members that are from all over the world including: Poland, Spain, Italy , Portugal, Panama, Hungary and many more. Our innovative house is powered solely with solar energy and is structurally made from locally grown Scottish timber panels (a UK first), alongside other ground breaking technologies including AI integration and intelligent cooling solutions. We are working with internationally-renowned eco-innovation companies as well as showcasing our own research spin-outs: flat-pack solar water heating and a construction brick made entirely from waste products.

Our home is made from Cross Laminated Timber (CLT) panels, made for the first time EVER in a Scottish factory using Scottish timber! We hope to justify the extended implementation of CLT construction throughout the UK, while promoting local industry and reducing carbon emissions from timber transportation. This system also allows us to design for disassembly: the prefabricated home will be shipped from Edinburgh and assembled in Dubai in November 2021.

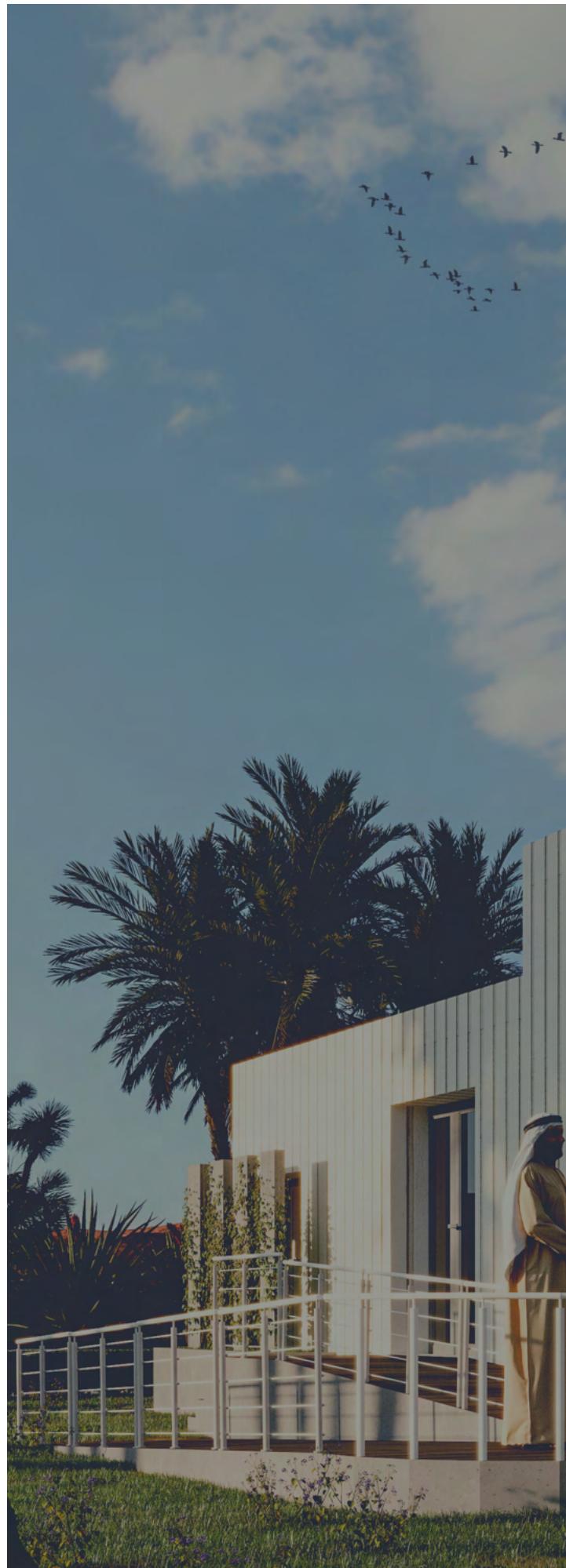
PRIDE IN WHERE AND HOW WE LIVE

The core team has over 120 student members, who are divided into a number of sub-teams, each taking responsibility for the development of a particular aspect of the project. This includes renewable energy systems, architecture, construction, sponsorship, social media and services design among several others.

At Team ESTEEM we draw from a range of academic backgrounds and our members aspire to apply their years of classroom learning to an interdisciplinary project that will change the world. We are the generation that will live to see the consequences of climate change. Motivated, eager and ready to act, each of us is committed to bringing together science, technology, architecture and innovative thinking to develop ourselves as professionals and bring about positive ecological change.

With the SDME, we are ready to take on the biggest challenge of all – becoming thought leaders in the green recovery and building the better, greener world of tomorrow.

**"The core team
has over 120
student
members"**



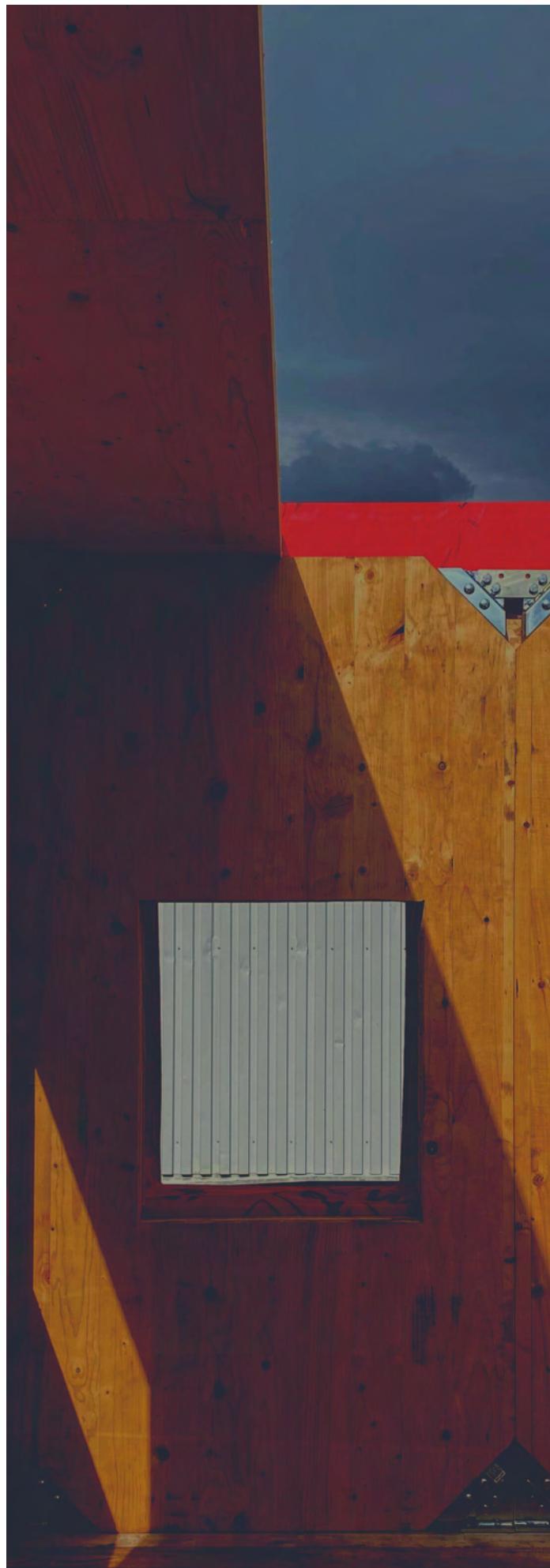
THE TEAM AND ITS GOALS

Team ESTEEM's goal is to raise awareness for a sustainable way of living. Our aim is to show that construction and lifestyle improvements can be successfully implemented whilst creating a blueprint for future generations and encouraging feasibility of such a project. As a multi-disciplinary team of more than 60 students from over 10 countries, we understand that sustainability is a global concern, and this is why we want to inspire people to make choices that cultivate a sustainable lifestyle. Therefore, we aim to demonstrate how using modular living solutions could help challenge perceptions surrounding a currently wasteful, non-circular building economy.

PROJECT SUMMARY

HOUSE DESCRIPTION

Flexible design and construction are the foundation upon which Team ESTEEM have developed a net-zero carbon home. Our design includes natural and closed-loop recyclable materials and is enhanced by smart technology to be net-energy-positive in active use. Within our house we have incorporated bricks made entirely from waste products, a 3D concrete printed wind catcher and bi-facial photovoltaics. We are also developing a smart interface that will integrate technology and users, enabling house control and positive environmental behaviour stimulated by a digital house





DESIGN PHILOSOPHY

Team ESTEEM are working by example to showcase that it is possible to continuously be proud of where and how we live. Developing upon sustainable behavioural practises to promote wellbeing from both the way in which the house is constructed and how it encourages the occupants to live. The house formulates a relationship with the natural environment around it. Selection of primary construction materials which grow naturally, use no harmful compounds, promotes biodiversity and continuously captures and stores carbon through its lifecycle. These components enhance the indoor environment quality leading to happier occupants.

TARGET CLIENTS

The ESTEEM house is furnished and fitted as a one bed home for a couple. As couples tend to grow into larger families, their needs will change. ESTEEM's modular house has been designed to be able to grow with them, be it having children or supporting elders. The house supports a logical grid arrangement of affordable foundation solutions enabling the house to be adapted for the changing needs of the occupants. This also means that while our house is possible to be transported from Edinburgh to Dubai, the house can move with its occupants should they choose to relocate.

AFTER THE COMPETITION

Following the competition, we aim to use the house as a 'live in lab' on one of our campuses, allowing students to develop ideas and test future technology which will further advance during other competitions.

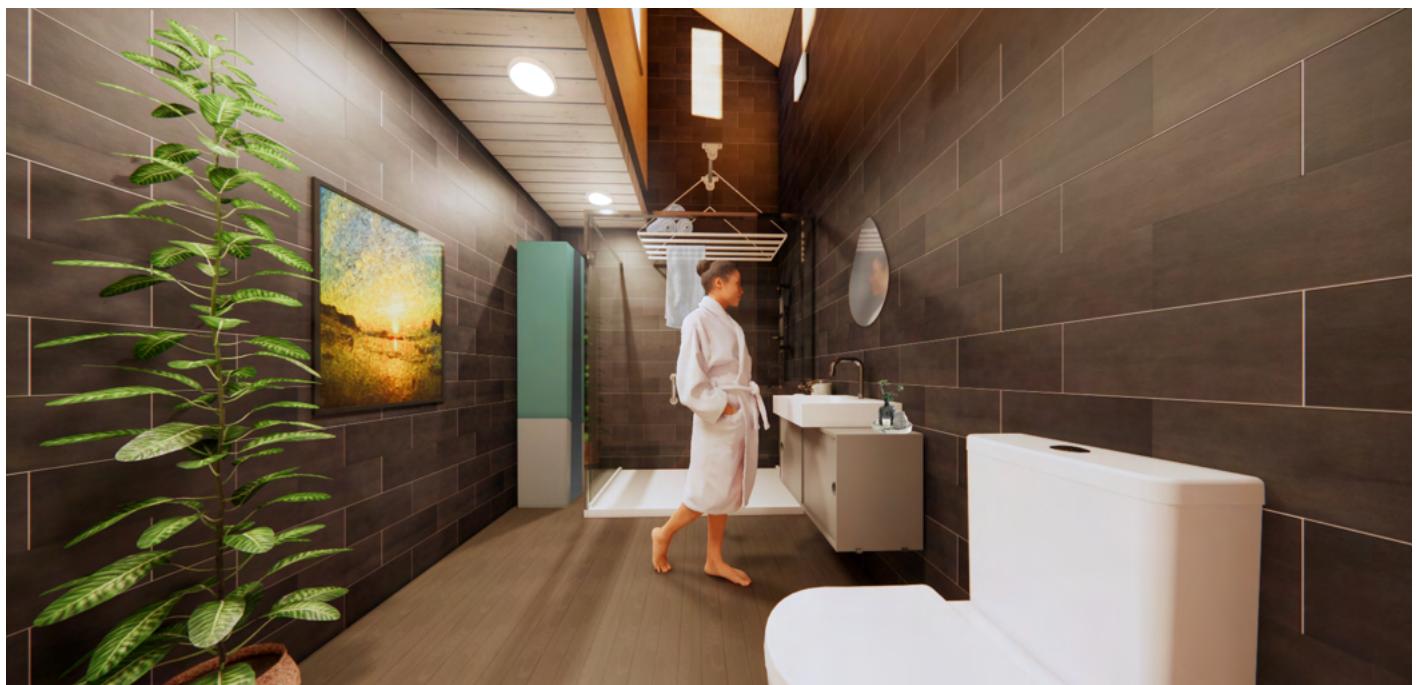
UNIQUE HOUSE FEATURES AND TECHNICAL INNOVATIONS

- Using 3D printing technologies, the team is designing and constructing a wind catcher with an organic shape specially designed to keep the courtyard cool. Developing a balance between recognition of traditional, vernacular architecture, biomimicry, innovation and passive cooling techniques.
- By using space-saving, hybrid technologies that combine solar thermal and photovoltaic systems the team aims to maximise yield from renewable solar irradiance.
- Our home will utilise Bi-facial solar PV panels to harness the additional solar energy from sunlight reflected from the ground, nearby surfaces and the house itself.
- Utilising cross-laminated-timber technology allows the house to be transportable, while keeping the structural integrity without the need for beams or columns.
- Smart space integration software lets us connect wirelessly to any smart device around the home. This comes with a supportive user interface along with pre-existing voice service utilisation. We are using sensors to provide information around each room, allowing for optimisation of any device or room.
- Strong focus on passive design to ultimately minimise energy consumption. Focusing on building orientation, choosing room locations and internal height spaces based on potential heat gain; deciding to have no south facing windows; high levels of insulation, airtightness and minimal thermal bridging. The house's digital twin helps to visualise the impact of these design choices facilitate technical specification.





OUR ESTEEM HOUSE RENDERS

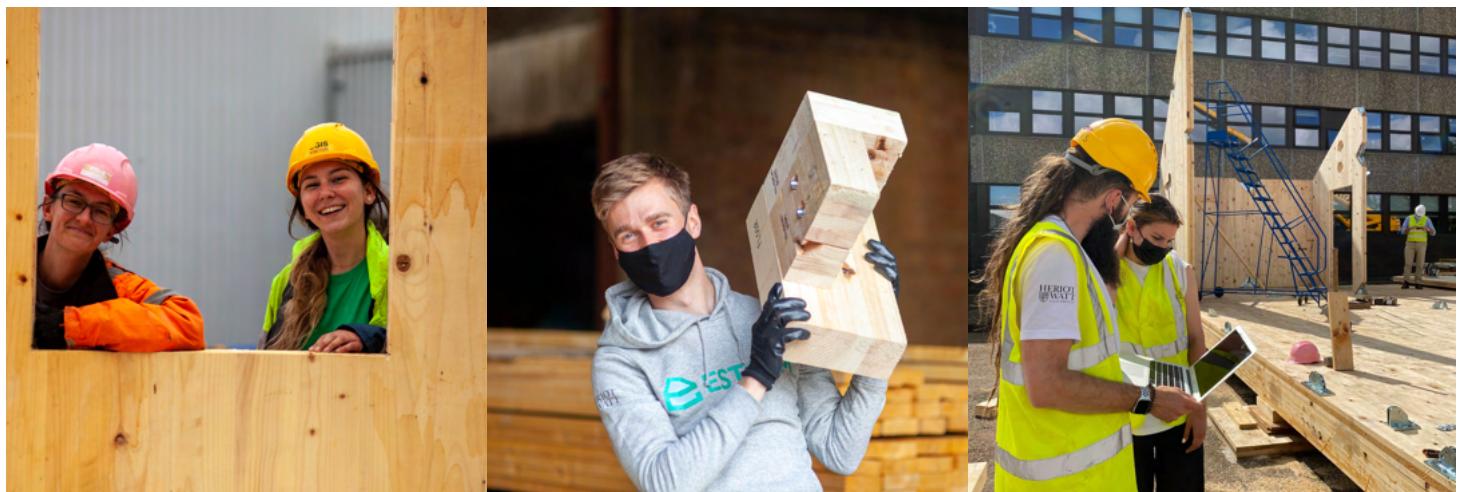


OUR ESTEEM HOUSE RENDERS - INTERIORS



OUR ESTEEM HOUSE RENDERS - INTERIORS

TEAM ESTEEM PROTOTYPE



TEAM CONTACT INFORMATION

Name	Surname	Role	Degree	Campus	School
Scott	Calder	Student Team Lead	Undergraduate	Edinburgh	EGIS
Sana	Hafsa	Vice Student Team Lead	Undergraduate	Edinburgh	EGIS
Martin	Juricek	Architecture Team Lead	Undergraduate	Edinburgh	EGIS
Sonia	Buzza	Interior Design Team Lead	Undergraduate	Edinburgh	EGIS
Ellie	Witton	Structural Team Lead	Undergraduate	Edinburgh	EGIS
Joe	Himi	Landscaping Team Lead	Undergraduate	Edinburgh	EGIS
Scott	Calder	Sponsorship Team Lead	Undergraduate	Edinburgh	EGIS
Ghazi	Yusaf	Sensors & Software Team Lead	Postgraduate	Edinburgh	MACS
Zuhair	Ahmed	H&S Team Lead	Postgraduate	HWOL	EGIS
Ruschane	Joginder	Building Services Team Lead	Undergraduate	Dubai	EGIS
Priyanka	Murugappan	Building Modeling Team Lead	Undergraduate	Dubai	EGIS
Simon	Klekot	HR & Recruitment Team Lead	Undergraduate	Edinburgh	SOSS
Angie	Varghese	Newsletter Team Lead	Undergraduate	Edinburgh	EGIS
Jessica	Haskett	Construction & Windcatcher Team Lead	Undergraduate	Edinburgh	EGIS
Callum	Lewington	Quantity Surveying Team Lead	Postgraduate	Edinburgh	EGIS
Jairis	Alvarez	Marketing Team Lead	Undergraduate	Edinburgh	EGIS
Marta	Gorecka	Renewables Team Lead	Undergraduate	Edinburgh	EPS
Kelvin	Shillinglaw	Renewables Team Lead	Graduate	Edinburgh	EPS
Alakbar	Zeynalzade	Audiovisual Team Lead	Undergraduate	Edinburgh	MACS



PRIDE IN
WHERE AND
HOW WE LIVE

OUR SOCIAL MEDIA CHANNELS

- **Website:** <https://teamesteem.co.uk/>



What do ESTEEM do?

We are, not only, Heriot-Watt University's official entrant into the Solar Decathlon Middle East 2020 competition, but also sole UK finalist! This contest is integrated with the World Expo in Dubai which attracts an estimated 25 million visitors.



- **Podcast:**

[https://open.spotify.com/show/572g2QVpSZRh1QEXVdZ6rq?
si=OwAODb6eSsGAuQDbZQ9mUQ&dl_branch=1](https://open.spotify.com/show/572g2QVpSZRh1QEXVdZ6rq?si=OwAODb6eSsGAuQDbZQ9mUQ&dl_branch=1)

The podcast episodes listed are:

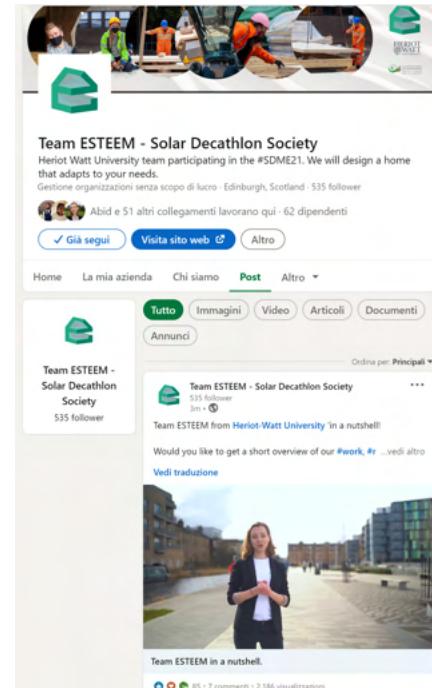
- Marketing and Sponsorship w/ Scott & Jairis
- Graduate Jobs w/ Kelvin and Luke
- Leadership w/ Sonia Porek
- The Subjectivity of Productivity
- Introduction to Vision



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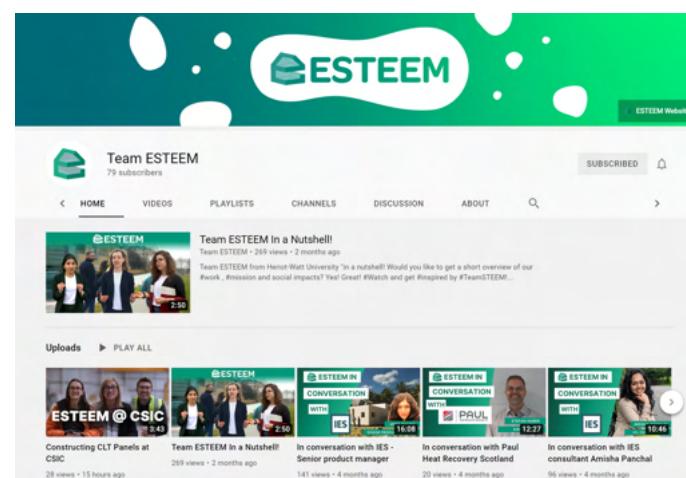
- **Linkedin:**

<https://www.linkedin.com/teamesteem2002>



- YouTube:

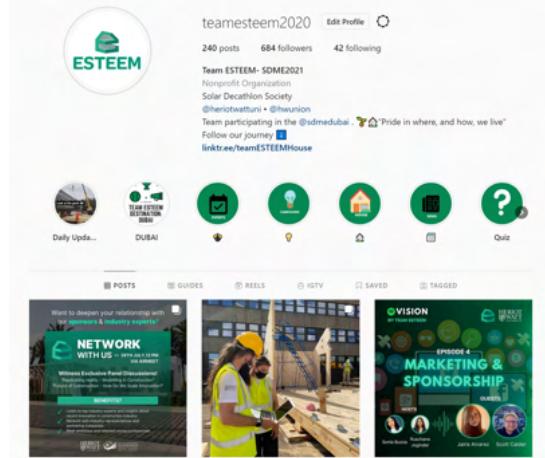
<https://www.youtube.com/channel/UC55Q10-DHmFwC7WNMXcpfg>





- **Instagram:**

<https://www.instagram.com/teamesteem2020/>



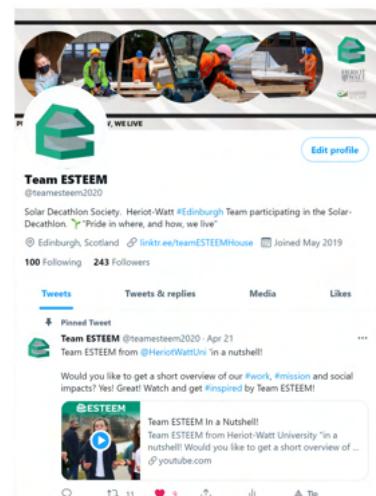
- **Facebook:**

<https://www.facebook.com/teamesteem2020>



- **Twitter:**

<https://twitter.com/teamesteem2020>



OUR SPONSORS

Since we announced our entry into the SDME 2020 competition, we have had several sponsors generously offer to support us on our journey. Working alongside these companies has provided valuable insight into their business operations and a unique opportunity to learn from the expertise they provide, as well as the chance to develop relationships with key industrial partners. We are proud of the engagement Team ESTEEM has achieved with a variety of businesses in the construction and building services sectors and look forward to welcoming them to Team ESTEEM's home in Dubai later this year!

Platinum Sponsors



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