



THE UNIVERSITY of EDINBURGH

HYPED

Outreach Project





Who is HYPED?

We are a team of 100 students from the University of Edinburgh, collaborating to develop Hyperloop and build the future of transportation.

HYPED Timeline

HYPED
established
2015



SpaceX Subsystem
Technical
Excellence Award
2016



Hyperloop One
Global Challenge
Winner
2017



Achievements

We have taken part in two major competitions, the SpaceX Hyperloop Pod Competition and the Hyperloop One Global Challenge. In both competitions we were extremely successful, reaching the SpaceX final, which took place in Los Angeles and being announced as one of the winners of the Hyperloop One Global Challenge, after attending the semi-final in Amsterdam.



 GLOBAL CHALLENGE
WINNING ROUTE

UK | EDINBURGH-LONDON
TEAM: HYPED

Total Length: 666 km Total Duration: 50 min



We regularly engage with audiences, presented at tedx, did workshops and public talks.



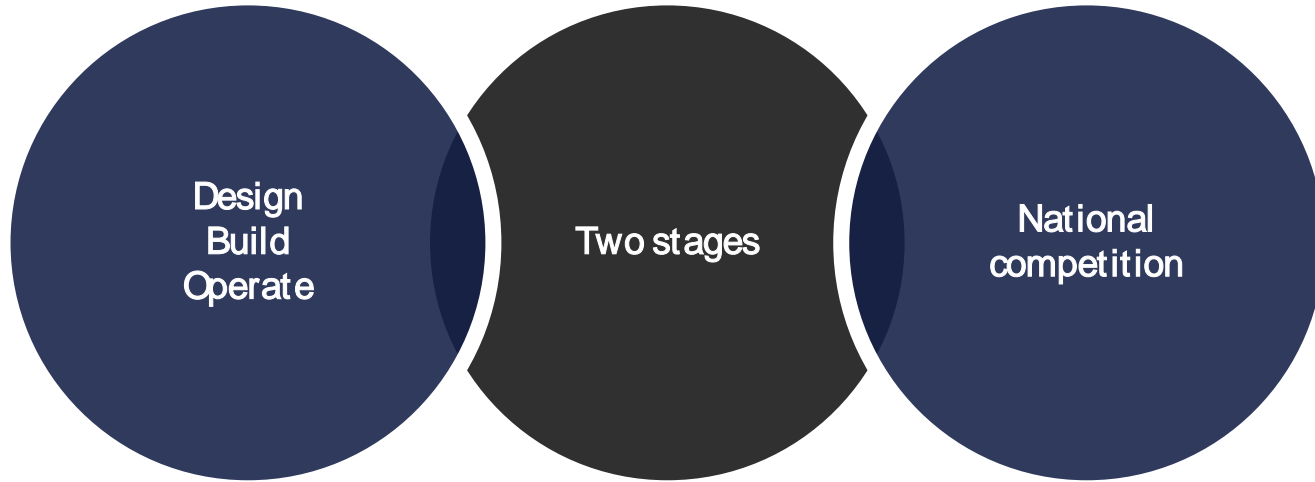
Our inspirational potential has been recognised many times by the public as well as our stakeholders and commercial partners.

Aims of our Outreach project

- To address the shortfall of engineering graduates in the UK,
- To encourage many more pupils to chose STEM subjects, and
- To increase diversity in engineering and technology and get more girls interested in STEM subjects

... using the Hyperloop concept as the teaching context

Approach for programme



Comparison

[A] Design Build Operate

- 3 classroom workshops
- Aimed at pre-choice students (11-13 yo)
- Introduction to STEM careers

[B] National design competition

- One nationwide competition
- Aimed at pupils of any age range
- Focusing on passenger experience travelling with a hyperloop

Programme [A]

Classroom workshops

- Delivered by teachers or STEM ambassadors
- For children aged 11 - 13 (pre GCSE subject choices)
- Split into three activities
- Each activity focuses on different STEM career aspects

Three activities:

- Design
- Build
- Operate

Programme [A] summary

	Activity	School subject	Career
1. Design	Choosing the route nodes	Human geography	Transport Planner
2. Build	Affecting and being affected by the environment	Geoscience	Civil Engineering
3. Operate	Putting ideas into motion	Technology Physics Mathematics	Electrical and Mechanical Engineering

Activity specifications – [1] Design

- **Career focus:** Transport planning
- **Topic:** Human geography
- **Task:** To choose a hyperloop route in your local area that you see as beneficial
- **Research criteria:** Population, Industry, Tourism
- **Helpful approach:** To think about own experiences with traffic,
e.g. rush hour, train delays
- **Aim:** To familiarise pupils with the concept of infrastructure and its planning process

Activity specifications – [2] Build


- **Career focus:** Civil engineering
- **Topic:** Geoscience – Affecting and being affected by the environment
- **Task:** To decide on a path for the previously chosen route
- **Research criteria:** Are there mountains in the way, national parks, residential areas, rivers or lakes, ...?
- **Possible solutions:** Use tunneling, bridges, avoid area, etc.
- **Aim:** To give children an idea of what a civil engineer working in infrastructure has to think about

Activity specifications – [3] Operate

- **Career focus:** Electrical and Mechanical Engineering
- **Topic:** The technology of the hyperloop – putting the ideas into motion
- **Subject areas:** Technology, Physics, Mathematics
- **Task:** To do simple experiments about magnets, friction and air resistance
- **Aim:** To explain the technology behind hyperloop using simple experiments and talk about basic physics concept in a fun environment

Programme [1] Timeline

	Research & Development	Focus groups	Impact study	Full implementation
Period	September – December 2017	January – March 2018	Summer 2018	September 2018
Scale	Edinburgh	Edinburgh	Edinburgh	National
Stakeholders	HYPED Engineering solutions companies Professional institutions	HYPED Teach first	HYPED Professional institutions	Engineering solutions companies STEM ambassadors Teachers



Programme [2]

National competition

Heading:

Hyperloop Passenger experience

Aimed at:

Student teams of any size and age range

Task:

To come up with a concept for “the ultimate hyperloop journey”

Aspects:


Hyperloop stations, pod interior design, passenger and luggage logistics, the travel experience

Prize:

Win an engineering experience, e.g. a trip to and a tour of a famous engineering project

Programme [2] Timeline

	Development and Sponsor Engagement	Distribution	Winners announced	Hands-on activities for winners
Period	October – December 2017	January – March 2018	April 2018	April - June 2018
Scale	Edinburgh	National	National	National
Stakeholders	HYPED Sponsors	HYPED Professional institutions	HYPED Professional institutions Sponsors	HYPED Sponsors





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