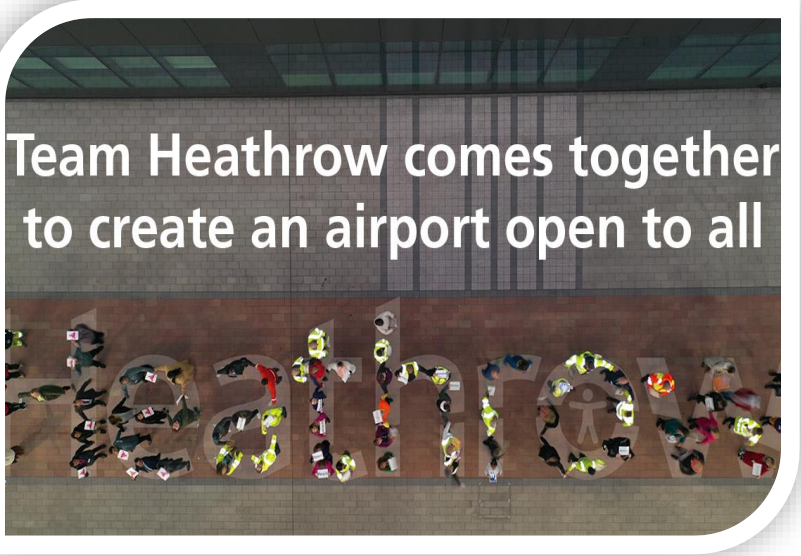
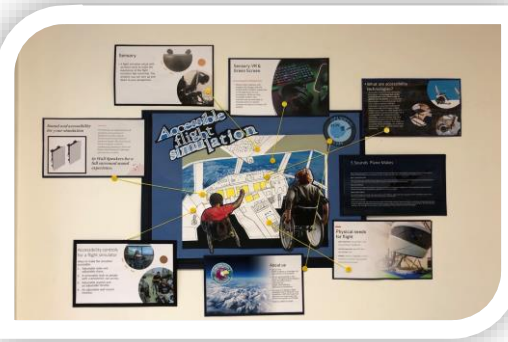
Jenny McLaughlin

Systematic Inclusion : Design No Barriers

Jenny McLaughlin (she/her)





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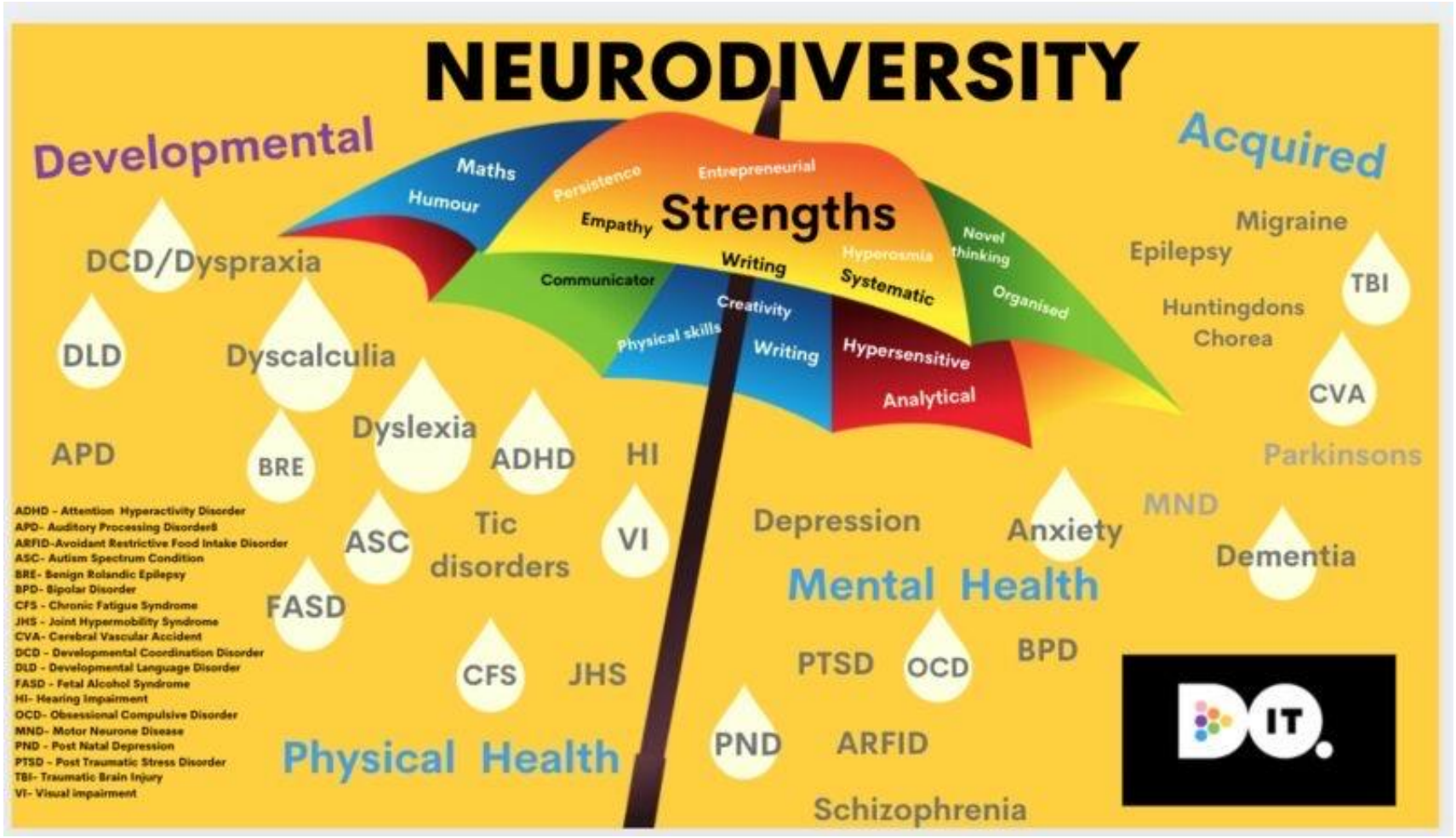
What is Neurodiversity



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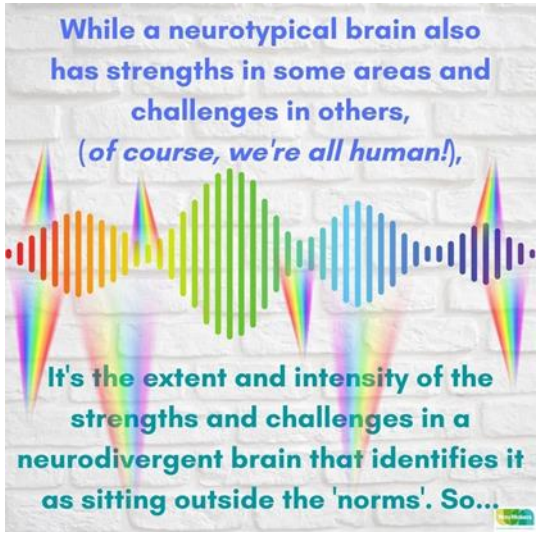

‘Norms’ are determined by what is most commonly experienced by the majority of people.

This gives us measures by which ‘typical’ behaviours and skills are established

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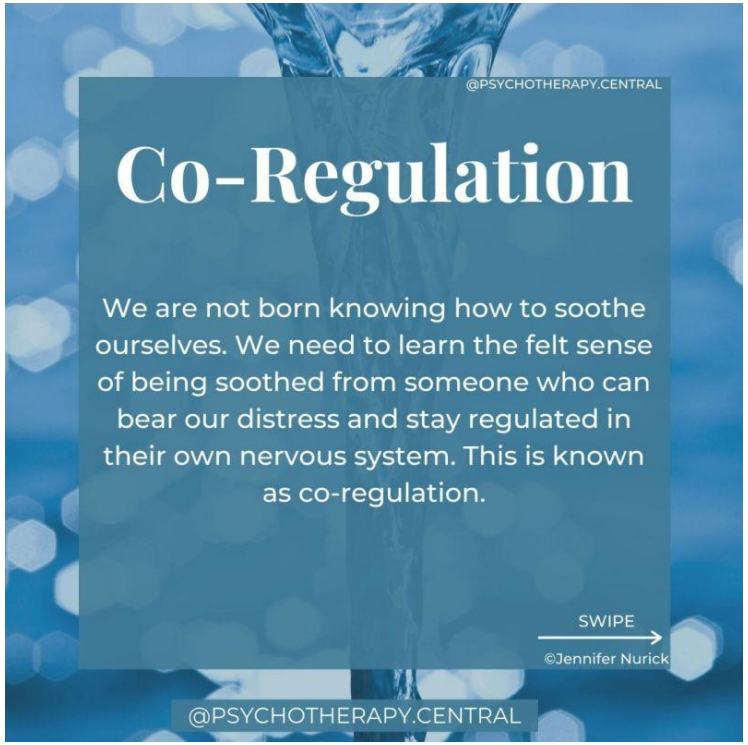
We all experience, process and communicate differently



Neurodiversity 101:
Task, individual, Environment

When considering making different adjustments think about which of the three elements can be changed.

Tasks

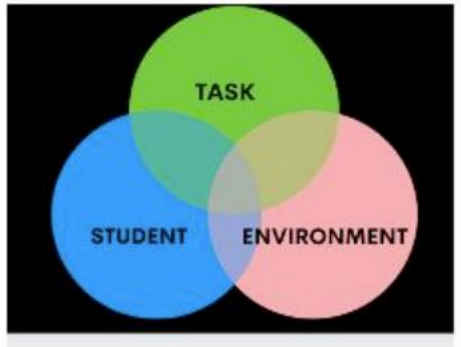
- ✓ Can you make the task simpler?
- ✓ Can you make it take less time?
- ✓ Can you adapt the task for the individual?
- ✓ Can the individual do a task with other individuals?
- ✓ Is there another way of completing the task e.g., using computer rather than handwriting?
- ✓ Can you break the task into parts?

individual

- ✓ What are the individual's strengths?
- ✓ Do they have specific challenges in this setting?
- ✓ Do they understand the task they need to complete?
- ✓ Is the individual frightened?
- ✓ Does the individual find specifically things helpful for them?

Environment

- ✓ Is it too noisy?
- ✓ Are there sensory challenges?
- ✓ Is there too much movement around them?
- ✓ Is the light a problem?
- ✓ Does the individual need defined space around them to work/study/participate/manage their emotions?



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Accessibility is for everyone

- Accessibility at Heathrow is used to mean that all our infrastructure, services, technology and processes can be accessed by all people equitably

- It builds from the concept that humans are different and will access and experience Heathrow differently.

- However, those differences shouldn't stop them being treated with dignity and feeling belonging.

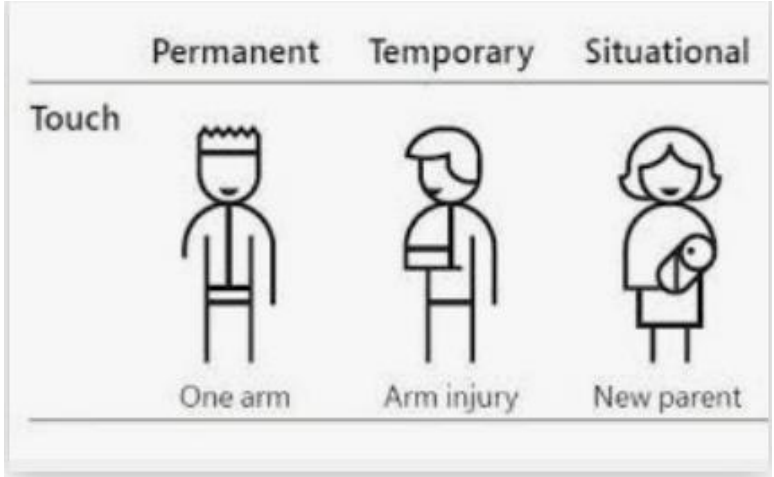
- If we design for a broad spectrum of diversity, we will become the hub of choice for all to work and travel.

In the UK, inclusion (inclusive design and accessibility) is covered by the **Equality Act, 2010**. The Act creates a duty on **both public and private** service providers to make anticipatory adjustments to their services to ensure that people are not discriminated against. It sets out our duty to:

- **Eliminate** unlawful discrimination
- **Advance** equality of opportunity;
- **Foster** good relations

Accessibility needs will be different for everyone and some maybe temporary or driven by certain life situations

We need to make sure the way we operate allows everyone with any accessibility needs to be able to thrive as a colleague or have the best experience as a passenger



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Definition of Inclusive Design

Heathrow | Definition

An approach to .. design, ensuring that it can be accessed and used by everyone.

A **methodology** that **enables** and **draws on** the **full range** of **human diversity** (Microsoft).

Aims to **remove the barriers** that create undue effort and separation. It **enables everyone to participate equally**, **confidently** and **independently** in everyday activities (Design Council).

The design of mainstream products and/or services that are **accessible to, and usable by, as many people as reasonably possible** ... without the need for special adaptation or specialised design. (British Standards Institute).

Interchangeable Terminology

'design for all', universal design', human-centred design', 'accessible design', 'barrier-free design', and transgenerational design'.

4 Principles of Inclusive Design

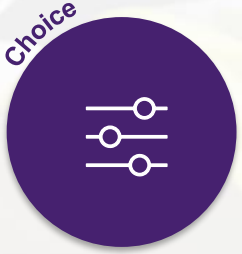
1 People-Centric

Places people at the heart of the design process

2 Diversity & Difference

Acknowledges diversity and difference

3 Choice



Offers choice where a single design solution cannot

4 Flexibility

Provides for flexibility in use

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Designing Right First Time

Inclusively **designed** = Inclusively **built** Inclusively **operated** & **maintained** Inclusively **accessed** & **used** = Inclusive **environment**

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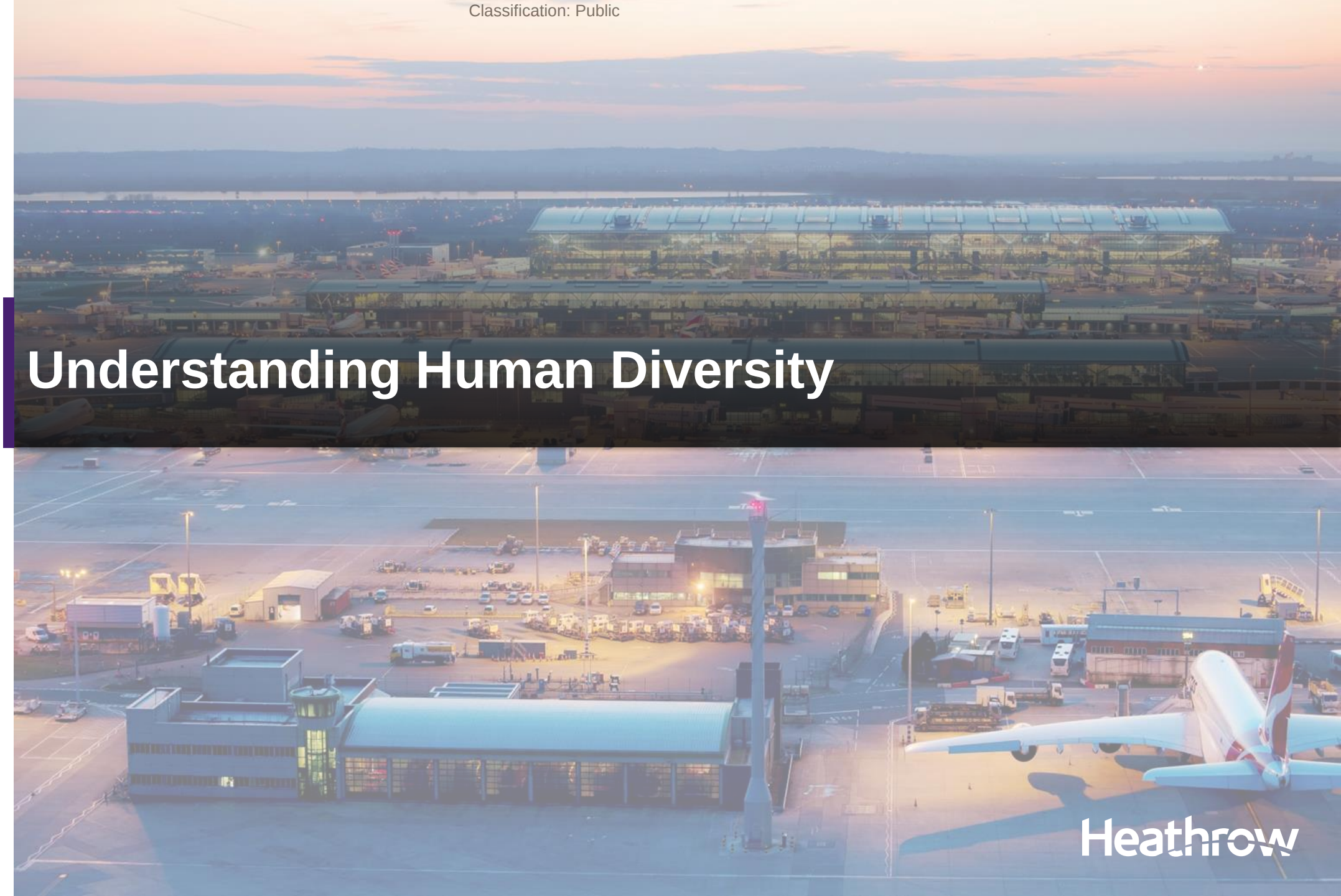

Understanding Human Diversity

Designing for Everyone

Source, Designing for Diversity, DCA Design International

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Classification: Public

Human Abilities & Experience

MOBILITY, SIZE & HEIGHT

COGNITIVE

TASTE

SMELL

METABOLIC

VISUAL

AUDITORY

BALANCE

ORIENTATION

TOUCH

Human Diversity

But this isn't just a problem of the past, nor is just a problem of fit.

In most industries, driver crash tests are still conducted with a 50th percentile male mannequin (based on US and European population).

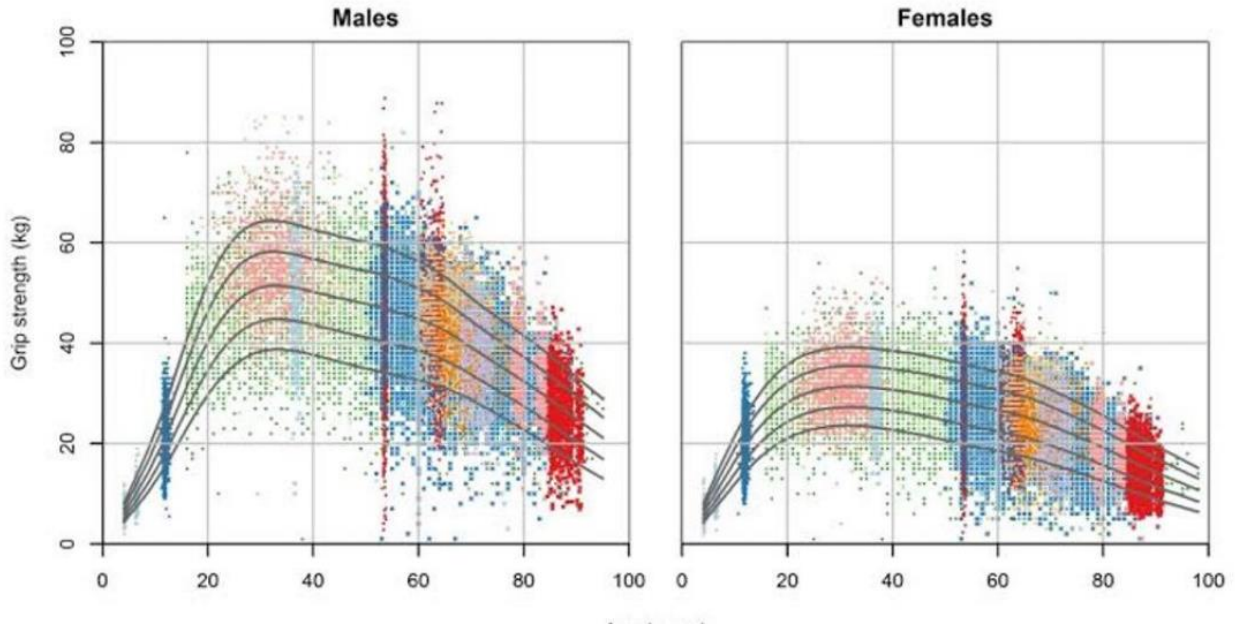
So if you are fortunate enough to be male and 175cm tall then you can be comforted by the idea that over the last 50 years cars have been optimised for your safety.

In terms of strength it really is down hill from 40, in fact more like mid 30s.

And we can see similar trends for many of our sensory capabilities too like eye sight and hearing.

And its not just about tall and short and gender, but also variance in features that may be linked to ethnicity.

A lot of products are designed around a European face – what happens if you nose is a different shape?



Source, Usability Model, DCA Design International

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Fire Escape Route | Visual Considerations

IMAGE SIGNAGE

DIRECTIONAL SIGNAGE

INFORMATIONAL SIGNAGE

This sign accommodates people who have low vision, an eye infection, vision distortions, or totally blind.

Tottenham Hotspur FC, White Hart Lane Stadium

STANDARD VISION

PROTOPIA VISION
(COLOUR-BLIND)

If a fire exit sign is not mounted onto a colour contrasted background, it is not accessible to people who are colour-blind.

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Classification: Public

You can’t say, ‘You can’t play’

What is the activity?

What are the barriers?

Who can participate?

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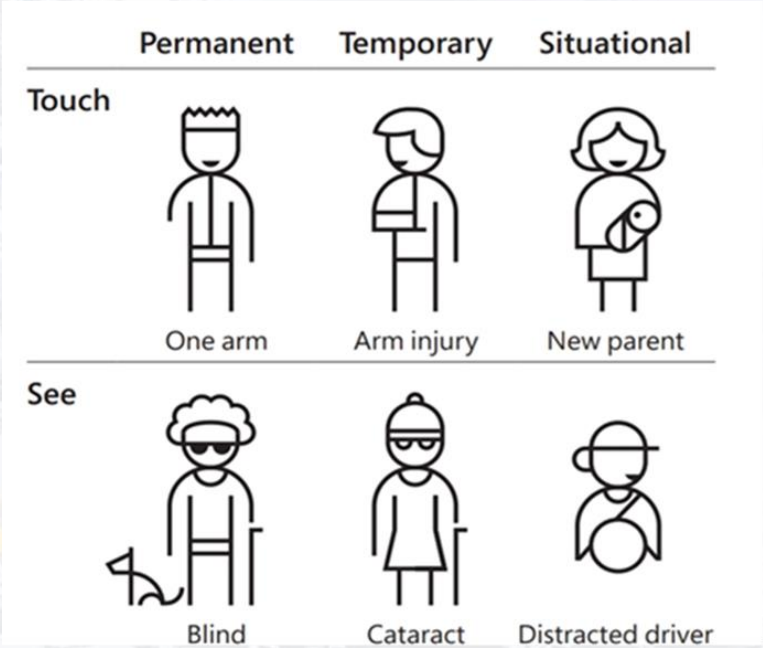
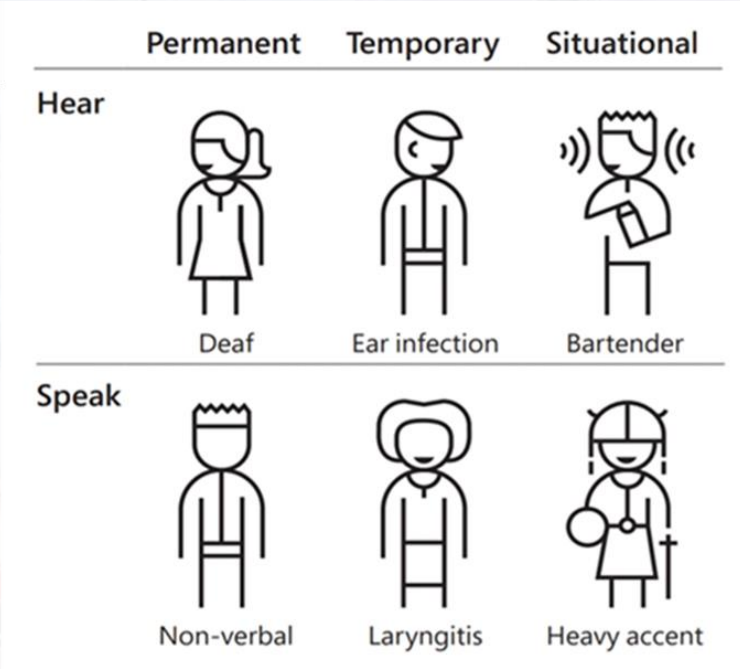
Reframing concept of '*Dis*ability'

by considering the widest range of human abilities and experiences in our designs we're able to identify potential barriers, and create design solutions accessible to all users.





Source, Microsoft, Inclusive Design Toolkit

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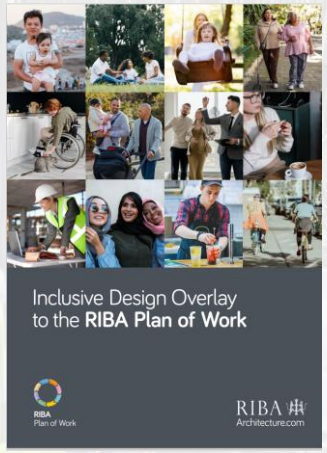
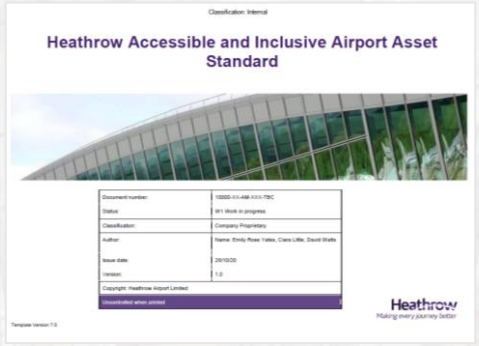
Standards & Guidance

Approved Document M, Building Regulations, 2016

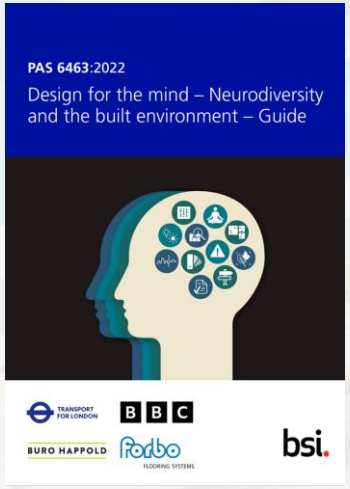
BS 8300, Design of an accessible and inclusive built environment, 2018

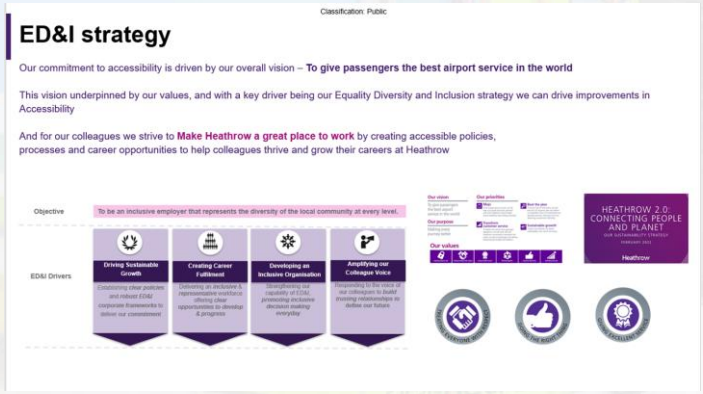


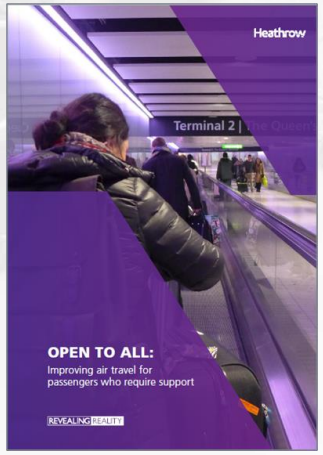
RIBA, Inclusive Design Overlay to the Plan of Work, 2023



Heathrow Accessible and Inclusive Airport Asset Standard, 2021. Further information on this Standard is presented in Module 4







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Inclusive design = good design

Physical

- Handle designed to work just as well regardless of which hand the extinguisher is held in. This means it works for left handed people, but also those with a weaker arm or just people who pick it up in a different way.
- Handle more comfortable to grip.
- Hole in the 'pin' much bigger – easier & faster to use.

Cognitive

- Clearer than the 'pin' needs to be removed.
- Possible to remove the pin when squeezing.

Sensory

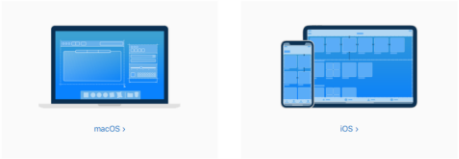
- Easier to visually identify the pin.

Inclusive design guides

Google

Microsoft

Unilever



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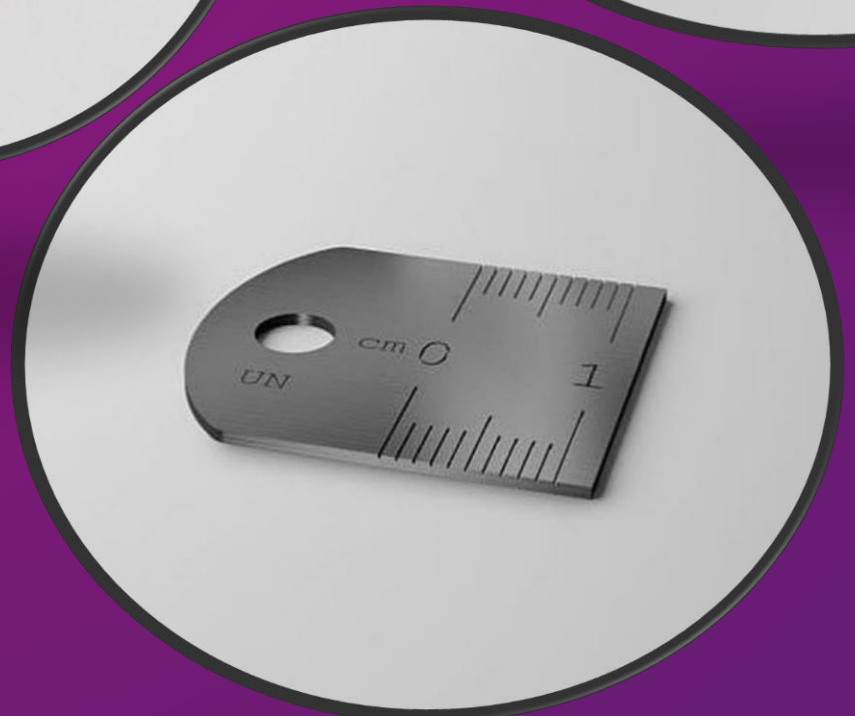
Design for diversity

“The Uncomfortable” objects designed by Katerina Kamprani

https://youtu.be/8sX9IEHWRJ8



Everyone is different, don’t assume

‘Norms’ are determined by what is most commonly experienced by the majority of people, this gives us measures by which ‘typical’ behaviours and skills are established but everyone is different.

Be curious

Check for assumptions

Use accessibility checker

Make it flexible

Give safe space for feedback

Some assumptions:

- Everyone knows what they need
- Everyone asks for help if they need help
- Everyone know how to ask for help
- Everyone knows who to ask for help
- Everyone knows where to go for help
- Everyone understands the language being used
- Everyone understands what you have said
- Everyone can read the words on the page

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Jenny McLaughlin

Thank you for your Engagement

Any questions?

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Making every journey better

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If you have any questions or require more information about the REET (Resources for Embedding EDI in Teaching) project, please contact the Project Lead using the following contact details:

Chloe Agg c.agg@imperial.ac.uk