# AIR POLLUTION SOURCES

Air pollution is caused by a build-up of particulate matter and gases in the air, that come from a range of natural and human-made sources.

**Natural sources of air pollution:**

Weather, desert dust storms, forest fires, volcanoes, pollen and soil.

**Human-made sources:**

Transport (cars, planes, boats), fossil fuels, agricultural fertilisers, paints and varnishes, aerosols such as hair spray, landfills, industrial processes, wood burning stoves, urbanisation, candles, furniture and cleaning products.


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# AIR POLLUTION
# SIZE

Particulate matter pollution is made up of particles floating in the air. These particles are often equivalent to, or smaller than, the diameter of a strand of human hair.

**0.1µm = vehicle exhaust emissions**

**10µm = pollen**

**100µm = a human hair**

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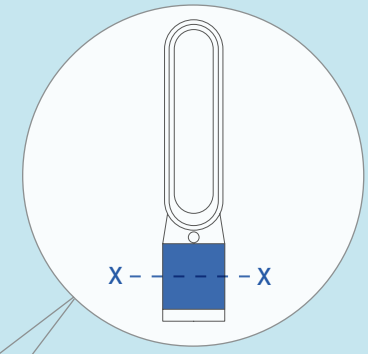
# AIR POLLUTION FILTRATION

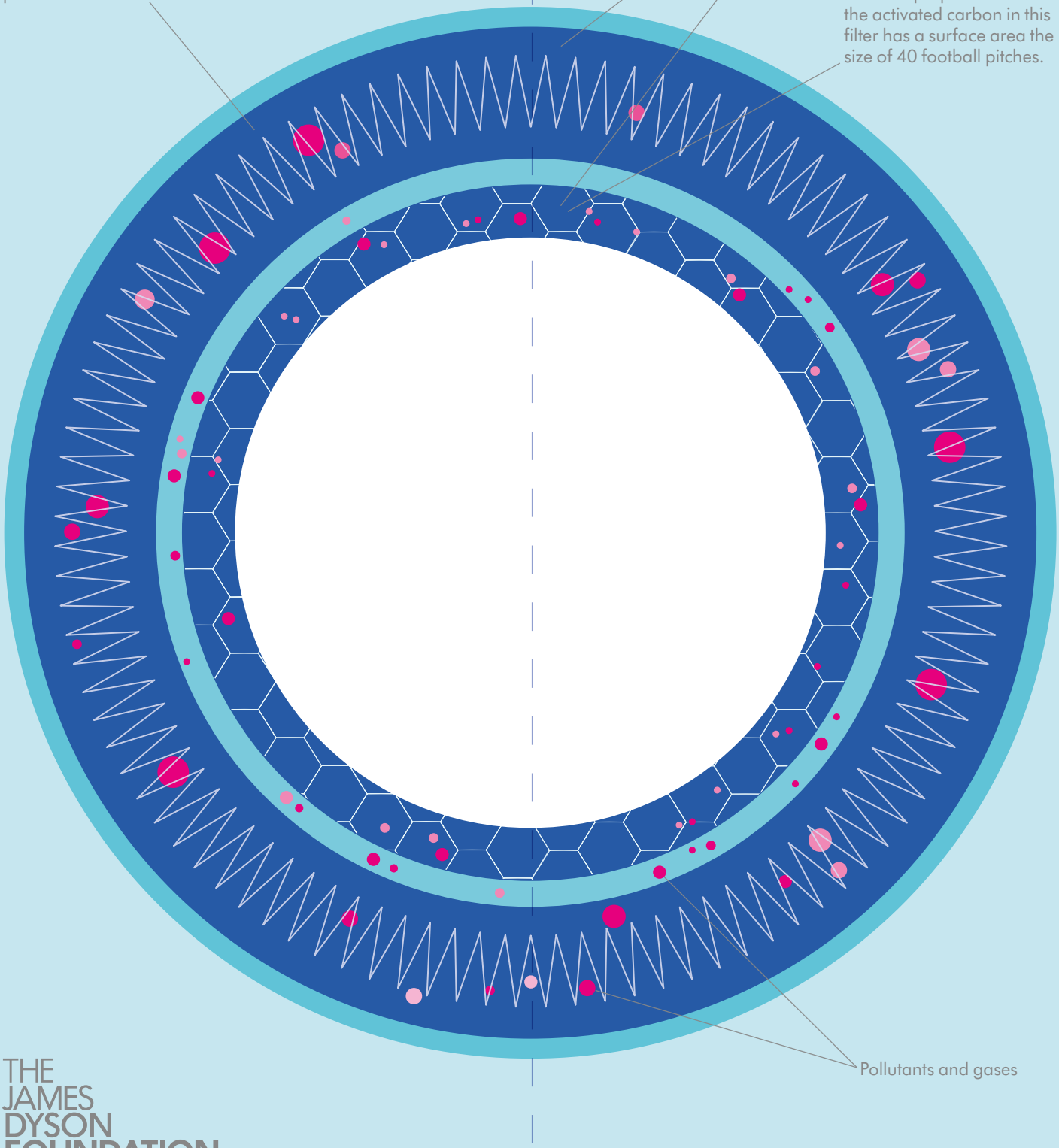
Dyson Pure Cool™purifying fans contain two types of filter to capture both particulate matter and VOCs: the HEPA filter and activated carbon filter.




**Cross Section**
Dyson Pure Cool™ Purifying Fan

**HEPA filter**
Contains microfibres, pleated 254 times.

**Activated carbon filter**
An internal network of microscopic pores mean the activated carbon in this filter has a surface area the size of 40 football pitches.



Pollutants and gases

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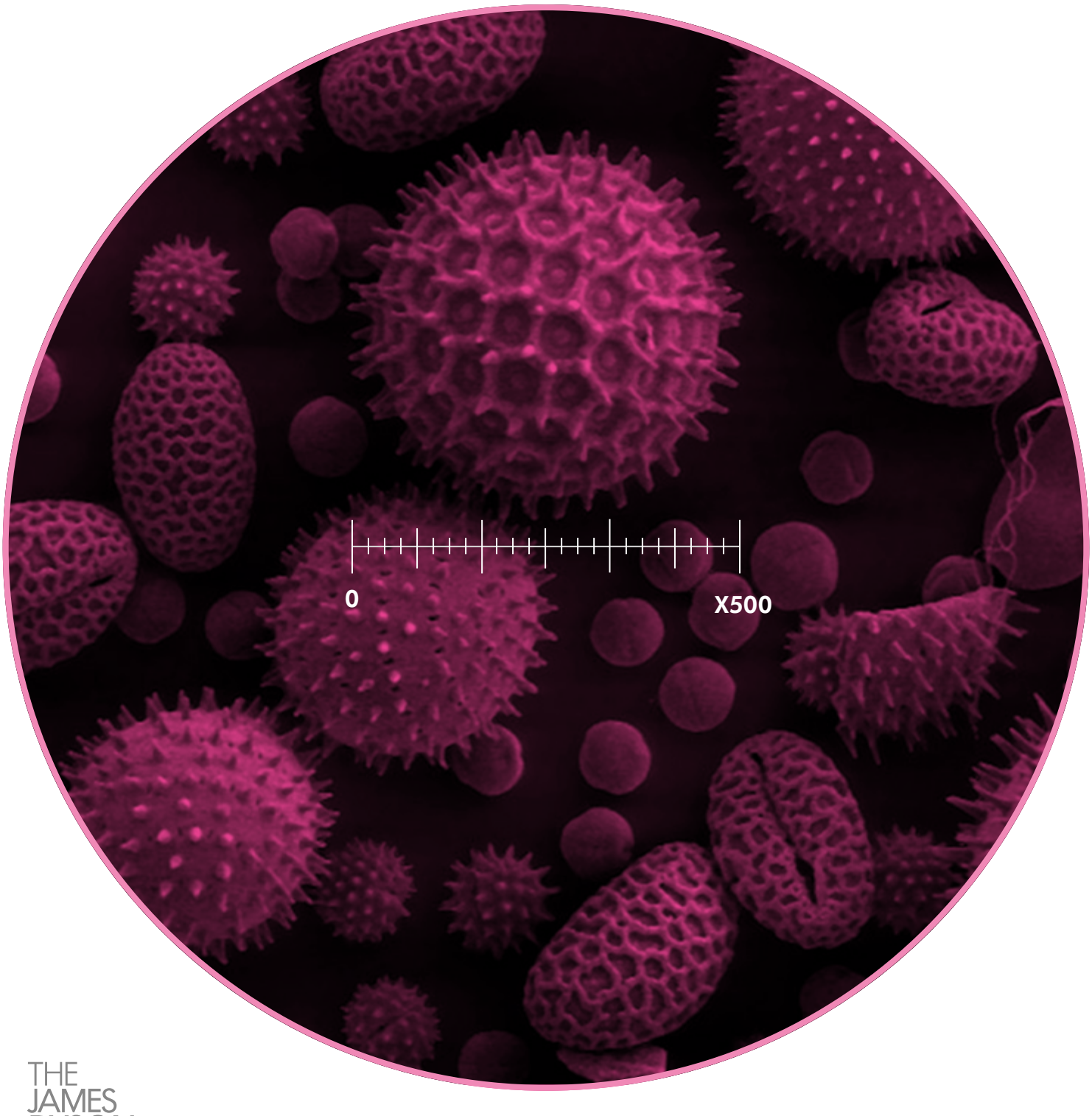
Capturing air pollution using filters

# AIR POLLUTION MAGNIFIED X500

Many pollutants are very small and can't be seen by the naked eye. Microscopes allow us to see what they look like close up.

This image shows a mixture of pollen from a variety of plants such as lilies and sunflowers. It has been magnified 500 times through an electron microscope. What do you notice about the size and shape of the particles?

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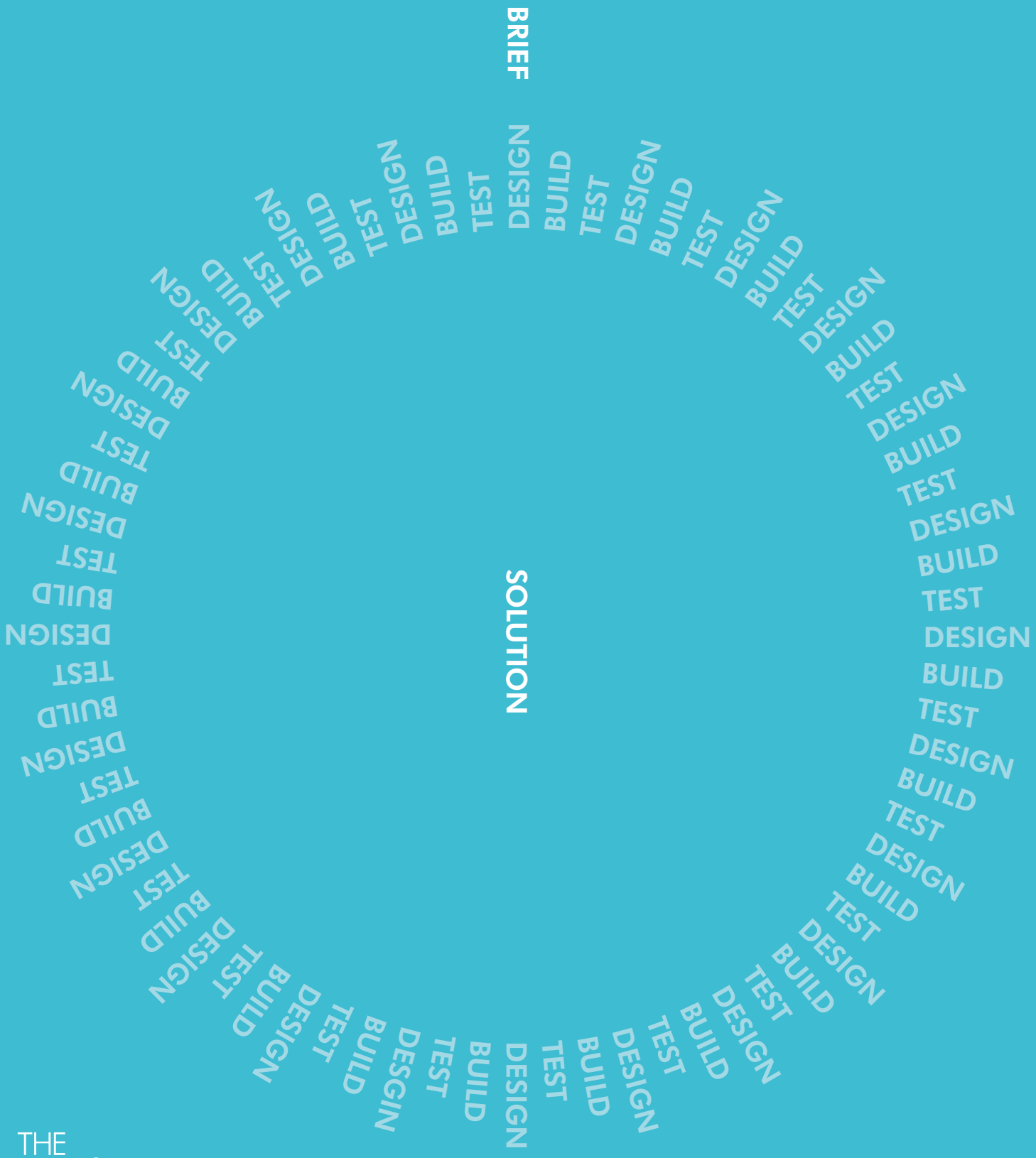
# PROBLEM SOLVING
# THE DESIGN PROCESS

Engineers are problem solvers. They research and develop ideas for new products and think about how to improve existing technologies. This is all part of a cycle called the design process.

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