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 fertilizers, paints and varnishes, aerosols such as hair spray, landfills, industrial processes, wood burning stoves, urbanization, burning candles, furniture and cleaning products.

NATURAL

HUMAN

Sources of air pollution

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.
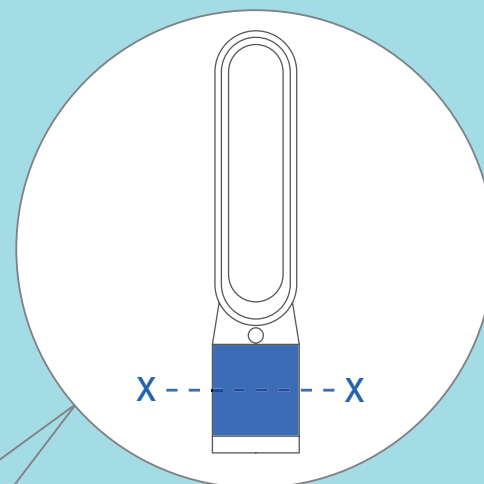
0.1µm = vehicle exhaust emissions

10µm = pollen

100µm = a human hair

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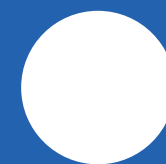
AIR POLLUTION FILTRATION

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

X - - - - X

HEPA filter
Contains 9m² of borosilicate glass 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 fields.
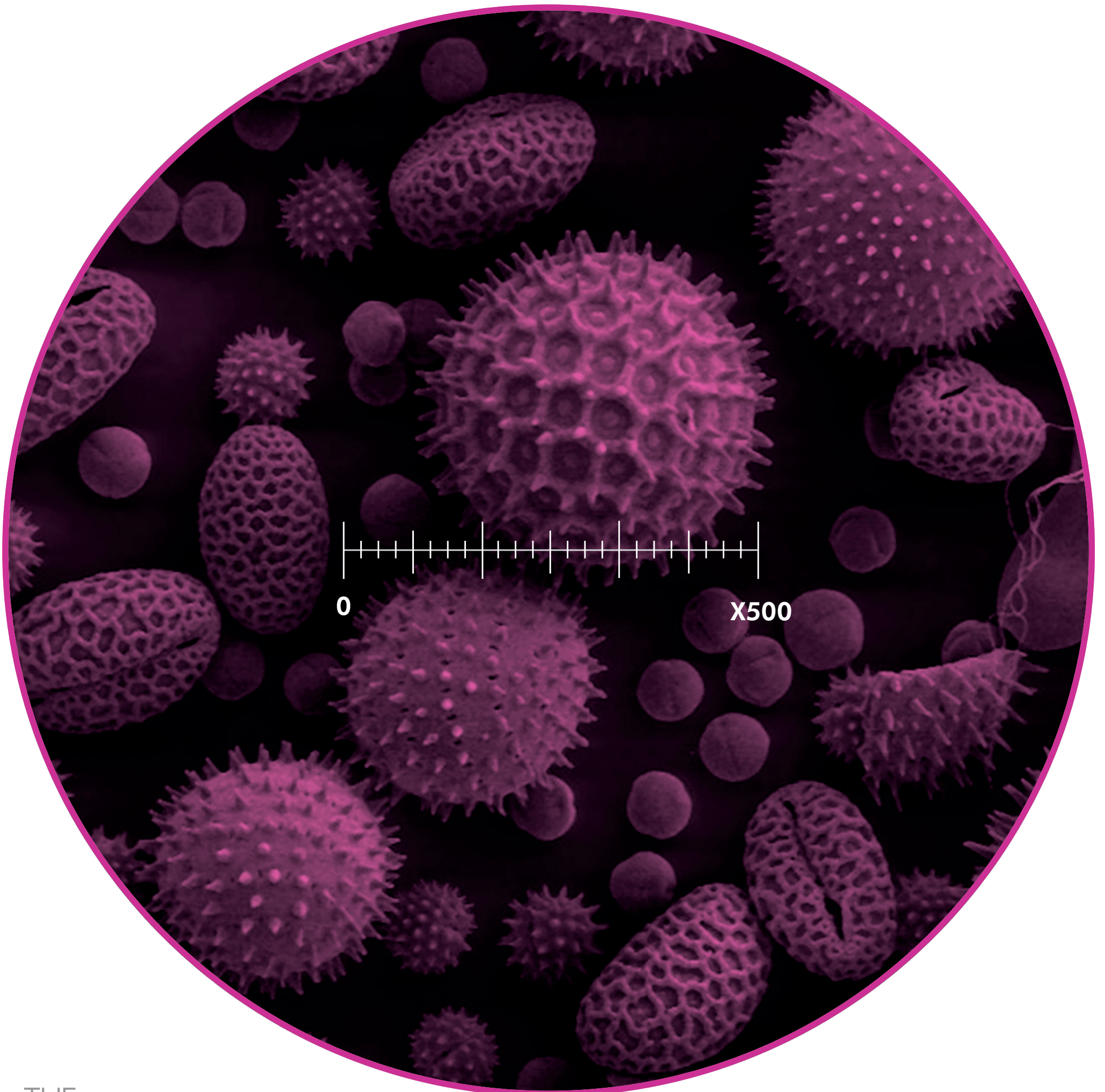
Pollutants and gases

Capturing air pollution using filters

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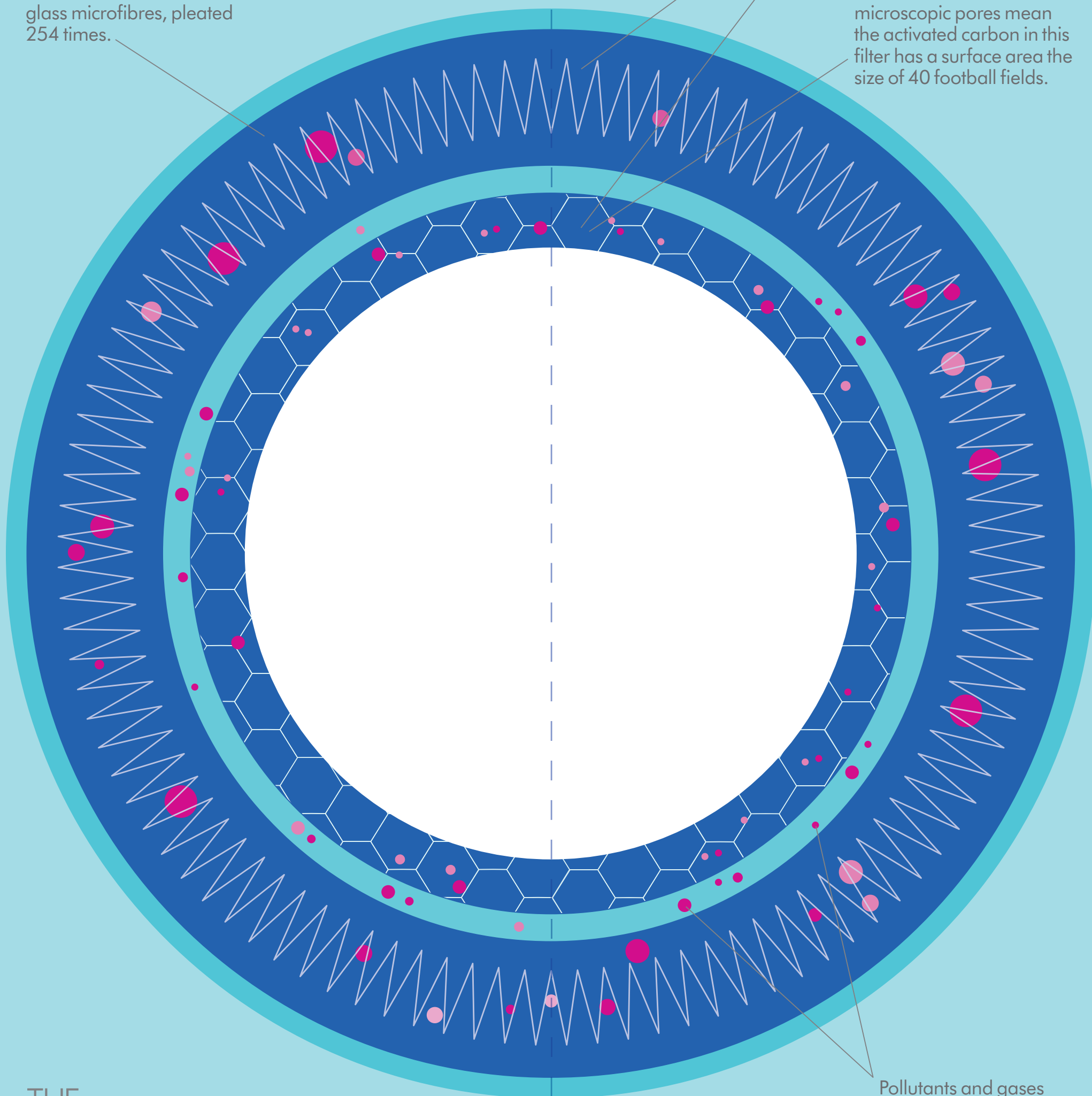
AIR POLLUTION
MAGNIFIED X500

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.

0   X500

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Pollutants under a microscope

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 an iterative journey
called the design process.

BRIEF

SOLUTION

DESIGN BUILD TEST ITERATE DESIGN BUILD TEST ITERATE DESIGN BUILD TEST ITERATE DESIGN BUILD TEST ITERATE DESIGN BUILD TEST ITERATE DESIGN BUILD TEST ITERATE DESIGN BUILD TEST ITERATE DESIGN BUILD TEST ITERATE DESIGN BUILD TEST ITERATE DESIGN BUILD TEST ITERATE

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