A quick and easy airtightness test, developed by the University of Nottingham, represents a significant step towards decarbonisation.

Measurement of air leakage in buildings is a mandatory requirement in the UK and many other countries. Understanding air leakage is important to improve building energy efficiency and also to inform ventilation and indoor air quality management strategies. If air leakage in the UK housing stock was dealt with, 7% of the UK’s 2050 emissions target could be achieved.

A team in the Faculty of Engineering set out to improve the energy efficiency of new and old buildings by developing a pioneering airtightness technique called Pulse. The portable compressed air-based system releases a small burst of air which generates a flow through the gaps in the building façade – whilst at the same time causing no disruption to occupants. Any changes to the internal pressure are seen as a pulse, representing the extent of the building’s air leakage. The new test can be completed in as little six seconds and can be carried out by energy assessors, building surveyors, airtightness testers or trained site operatives.

Licensed to Build Test Solutions Ltd in 2017, Pulse’s benefits are being realised through increasing global sales across the UK, Belgium, Brazil, Taiwan, China, France, Italy and Australia.

In 2021, Pulse became recognised by the UK Government as an approved compliance measurement tool in the UK Building Regulations.

Find out more
nott.ac/engineeringimpact