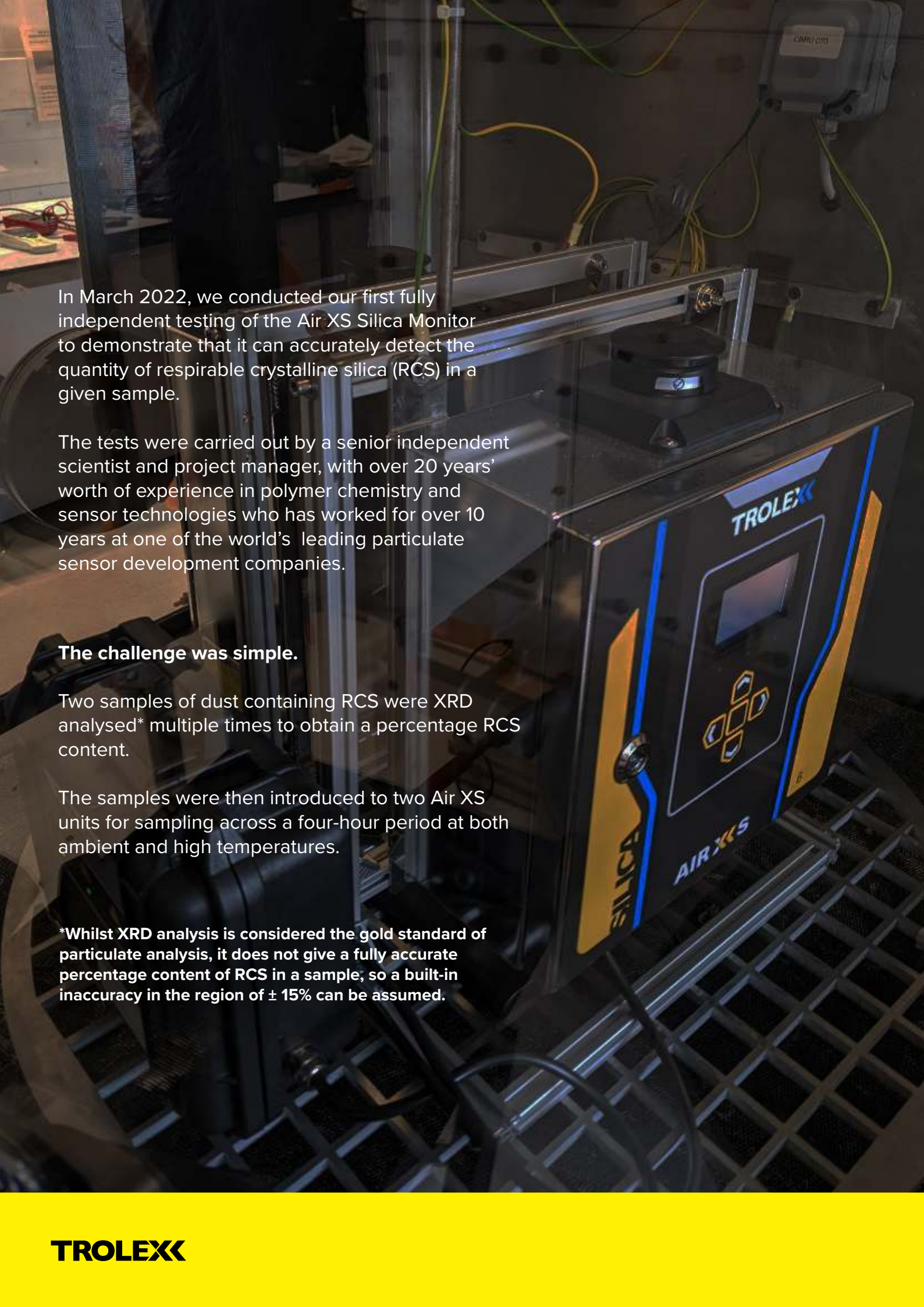


**TROLEXX**

# **AIR XKS**

**TESTING RESULTS**



In March 2022, we conducted our first fully independent testing of the Air XS Silica Monitor to demonstrate that it can accurately detect the quantity of respirable crystalline silica (RCS) in a given sample.

The tests were carried out by a senior independent scientist and project manager, with over 20 years' worth of experience in polymer chemistry and sensor technologies who has worked for over 10 years at one of the world's leading particulate sensor development companies.

#### **The challenge was simple.**

Two samples of dust containing RCS were XRD analysed\* multiple times to obtain a percentage RCS content.

The samples were then introduced to two Air XS units for sampling across a four-hour period at both ambient and high temperatures.

**\*Whilst XRD analysis is considered the gold standard of particulate analysis, it does not give a fully accurate percentage content of RCS in a sample, so a built-in inaccuracy in the region of  $\pm 15\%$  can be assumed.**





Then, in May 2022, we repeated similar tests with an independent regulator in their low-flow particulate chamber.

The Air XS was exposed to two different test dusts which had been XRD analysed to give a crystalline quartz percentage.

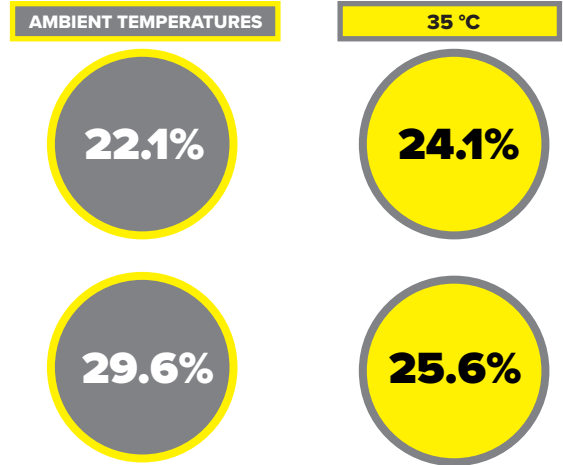


# The results: Independent scientist

The silica content of 'Sample A' was XRD analysed to be 25%.



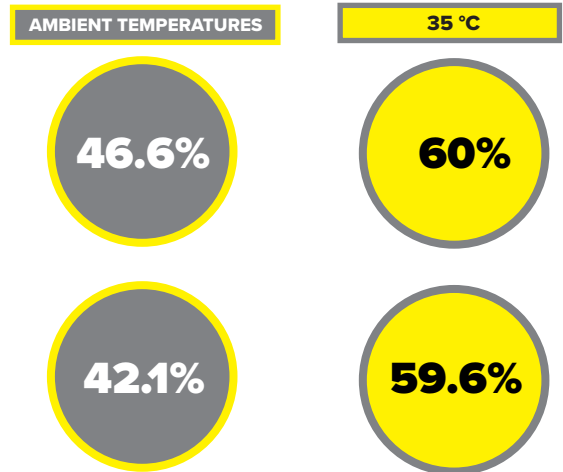
Reporting in real time, the two Air XS units measured 22.1% and 29.6% at ambient temperatures, and 24.1 and 25.6% at 35 °C over the four-hour test.



The silica content of 'Sample B' was XRD analysed to be 50%.



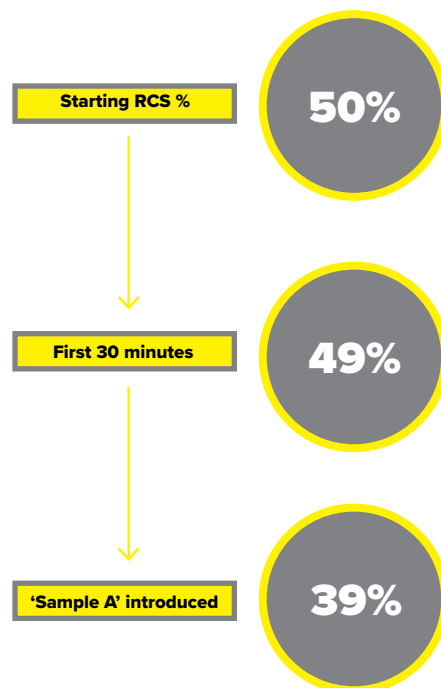
Reporting in real time, the two Air XS units measured 46.6% and 42.1% at ambient and 60% and 59.6% at 35 °C over the four-hour test.



An Air XS unit was set up in the chamber with 'Sample B' present (50% RCS); 'Sample A' (25% RCS) was then added after 30 minutes.



The percentage silica reported dropped from 49% for the first 30 minutes to 39% following the introduction of 'Sample A'.



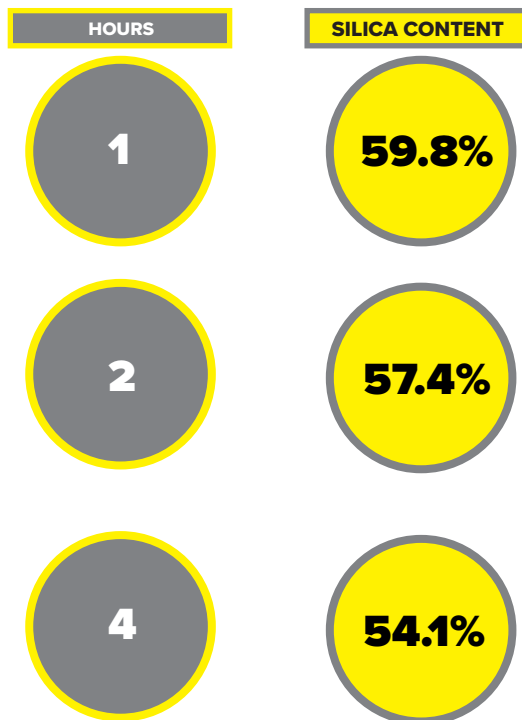
## The results: Independent laboratory

The silica content of 'Sample C' was XRD analysed to be 47.5%.

Reporting in real time, the Air XS unit measured:



- ▶ 59.8% at 1 hour
- ▶ 57.4% at 2 hours
- ▶ 54.1% at 4 hours

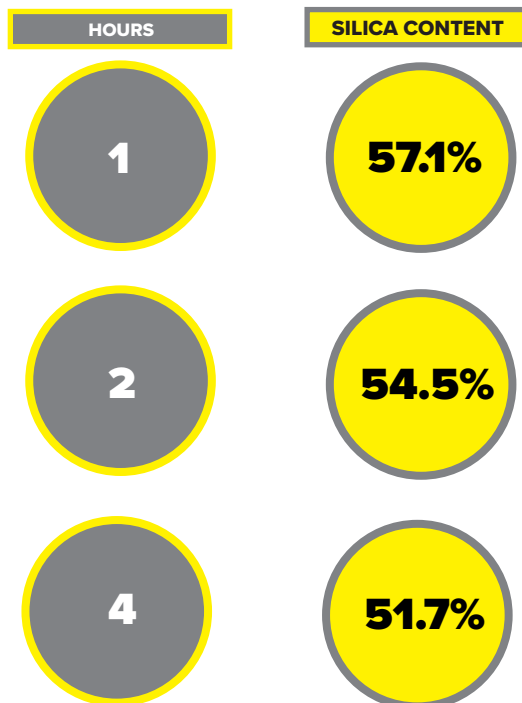


The silica content of 'Sample D' was XRD analysed to be 40.7%.

Reporting in real time, the Air XS unit measured:



- ▶ 57.1% at 1 hour
- ▶ 54.5% at 2 hours
- ▶ 51.7% at 4 hours



At Trolex, we save lives.

We believe that no person should risk their life to earn a living.

Our aim is to become the world's leading name in health and safety technology, through pioneering products that provide real-world benefits to our customers, whenever workers operate in hazardous environments.

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