

CASE STUDY

PENNINE AGGREGATES INTEGRATE REAL-TIME DUST MONITORING INTO THEIR PROCESSES

TROLEXX

CLIENT Pennine Aggregates

LOCATION Buxton, Derbyshire

INDUSTRY Aggregate and mineral processing

SERVICES Blending and mixing, bulk tanker loading, contract bagging, contract drying screening and sieving

Pennine Aggregates are one of the largest specialist aggregate and mineral processors in the UK. Based in Buxton, Pennine Aggregates are a global supplier to a wide range of companies, including ABC Industries as well as Sherwin-Williams, Cemex and Hanson's in the UK.

A growing problem in this industry is the threat of silicosis.

Silicosis now causes a huge number of deaths across an increasing number of industries, from clothing manufacturing to construction, and the aggregates industry has one of the highest risk profiles for this disease. This meant that Pennine Aggregates grabbed the opportunity with both hands to trial the world's first real-time respirable crystalline silica (RCS) monitor, the Air XS, to see how they could integrate it into their existing dust suppression processes.

Mark Dickinson, a director at Pennine Aggregates said: "It's really important to us as a business that we are using every tool that's available to keep our workers safe and we were really excited to have the chance to see what impact using the first real-time RCS monitor would have on our processes and on workforce morale." In April 2022, Trolex supplied them with a first-generation Air XS unit to test their processes across two main site locations over a six-week period.



pennine aggregates

MAKING THE RIGHT DECISIONS

Dangerous crystalline silica particles can be anywhere at any time when you are working in dusty environments.

So, for Pennine Aggregates, it wasn't that they didn't have dust suppression in place, it was that they didn't know exactly how much dangerous dust each of their processes were producing.

Mike Thompson, QHSE Manager said: "We were asking ourselves right across the business – is our dust suppression actually getting the right amount dust out of the environment, as quite frankly, before we installed the Air XS on our site we just didn't know."

Current RCS monitoring requires samples to be sent over to a lab for analysis. This makes it difficult for businesses to accurately target dust with the right dust suppression as the results often take weeks to come back. Thompson added: "By the time a few weeks have passed on it's entirely possible that the environmental conditions are so different that the dust profile is different as well."

Pennine Aggregates are a growing business meaning that they are continually adding extra bits of plant to what they have currently running and investing in dust suppression systems to make these new processes as safe as the old ones.

Thompson says: "We'd had quite a bit of work done on our extractors before the unit came in, so we wanted to use it to make sure that the changes we'd made were making things better.

I really felt that while we were doing our best, we were really shooting blind and while that was all we could do before Trolex developed this new technology, now that you can monitor for RCS in real time, our board were clear that shooting blind just wasn't good enough."



BUILDING TRUST

Pennine Aggregates ran the Air XS over a six-week period on each of the processes where they had put in place new dust suppression systems. These areas included a large number of processes as the site is spread over several acres and runs a huge number of different pieces of plant.

One unexpected benefit of the trial was increased worker engagement in their own safety. Thompson made a point throughout the trial of showing workers the fluctuating data on the real-time read out stating that: "I wanted to show everyone in the business that we we're expanding in many ways, but at the same time that we're also expanding our attention to staff welfare, health and safety.

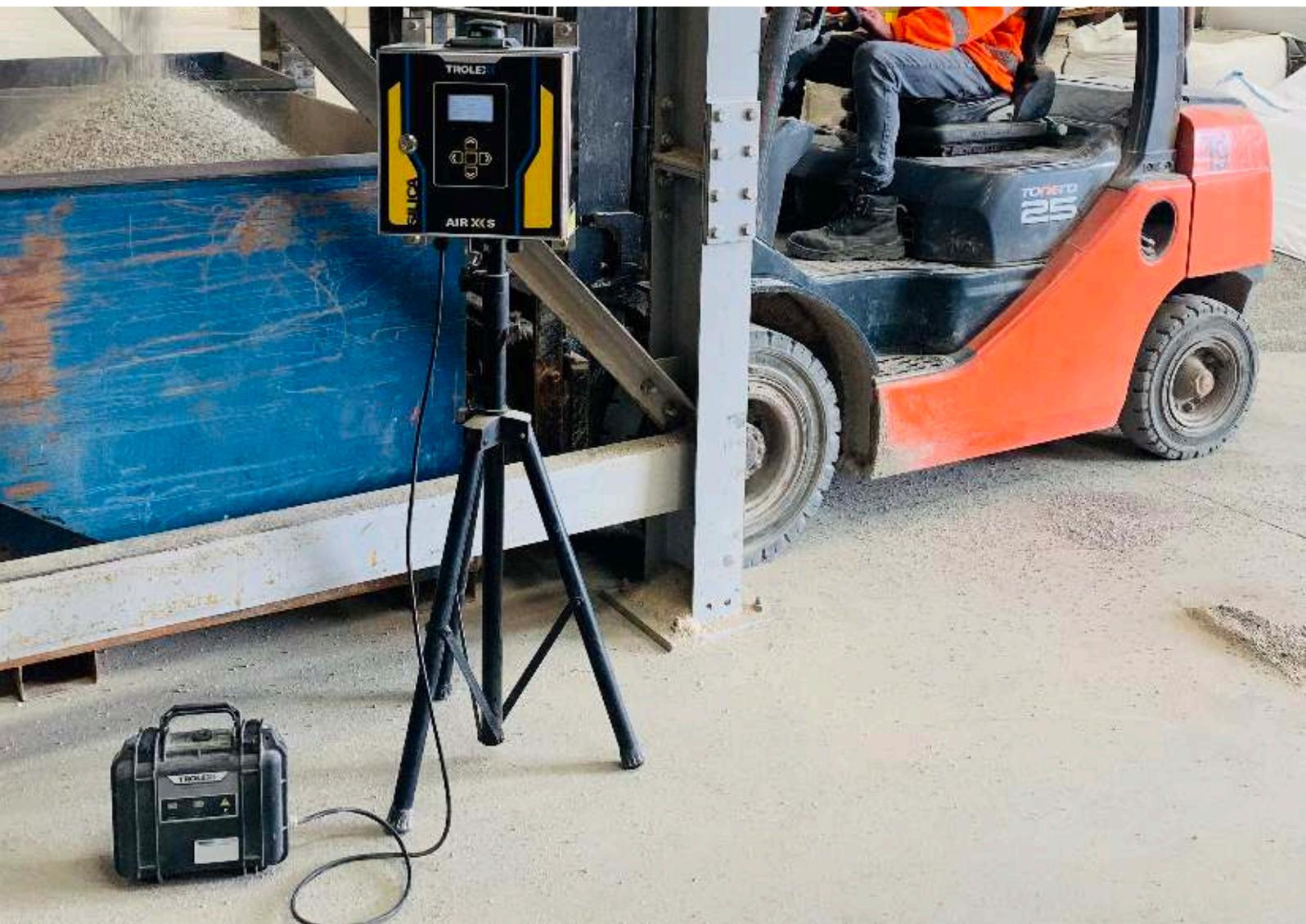
And that really worked as for the first time the guys on the equipment were asking me to tell them about what the business was doing to protect them. And that was great as staff retention is quite high on our agenda right now."



MAKING DATA DRIVEN DECISIONS

With access to this information and data, the business is now able to plan ahead for the future, knowing their levels of RCS content and that their dust suppression methods are working.

Dickinson said: “As a management team it’s given us a structure on what we need to plan for around dust extraction and PPE, that’s an area of significant investment for us and this data means that we can spend the right money in the right place and have an engaged workforce who will stay with us for the long haul.”



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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