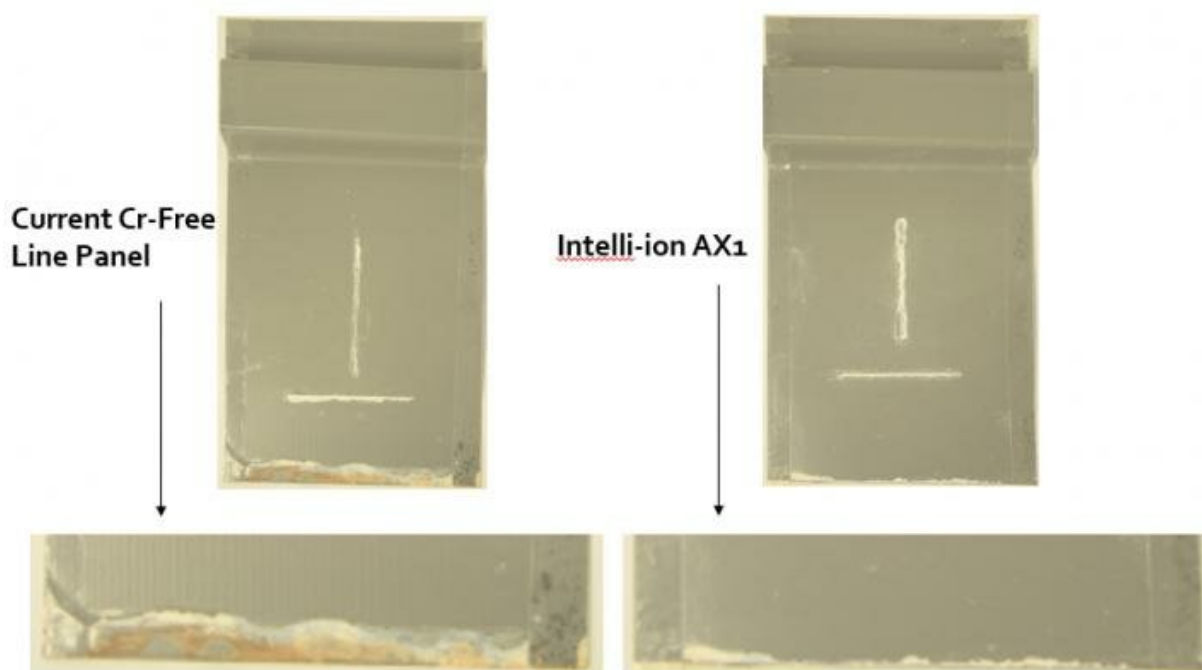


A smarter, safer way to beat corrosion: Research shows new corrosion inhibitor is 10 times more effective

March 11 2019



Test results demonstrating areas of 1mm (Intelli-ion) vs. 10mm (control) creep in samples. Credit: Hexigone Ltd

Independent research has shown that a safer, smarter corrosion inhibitor can protect products for up to ten times longer, plugging the

performance gap for an effective, chrome-free inhibitor.

The product was developed by Hexigone, a start-up company formed by Swansea University researchers and students.

Corrosion costs the [world economy](#) 2.5 trillion dollars every year, and last month, the EU banned its most effective inhibitor, hexavalent chromate.

Hexigone Inhibitors' disruptive technology—Intelli-ion—swaps chromate for 'chemically intelligent' pigments, offering a completely unique approach to tackling [corrosion](#). The result? Coatings that can protect end-products for up to ten times longer than chrome-free alternatives.

The research was carried out by a global leader in industrial coatings, and following 1,000 hours of aggressive prohesion, salt spray and humidity (4000 hours) testing, the Intelli-ion product displayed 1mm of corrosion versus 10mm in the control sample (see figure 2).

CEO and Founder of Hexigone Inhibitors, Patrick Dodds, commented:

"Following really exciting results in the labs, these were the results we were anticipating from our industry partners.

We moved our research away from mainstream thinking, and as a result, can use chemicals that were previously incompatible with coatings. Now, we are offering a potentially game-changing inhibitor to the coatings industry; a higher performing product that can be easily added to existing production processes, at a price that matches the market."



Hexigone CEO and founder, Patrick Dodds (l) & Product Development Manager, Calvin Richards (r) in the laboratory. Credit: Hexigone Ltd

Intelli-ion uses intelligent micro reservoirs that make the coatings responsive to the environment, triggering the release of the inhibitor 'on demand.'

This method of protection could deliver significantly longer life spans to end products, which would in turn, have a huge impact on the construction, automotive and aerospace industries.

The company has not gone unnoticed; they have recently secured investment from Development Bank of Wales and [angel investors](#), Phil Buck and Andy Lewis, as well as an innovation loan from Innovate UK;

totalling over £1 million.

The team is already working with 20 industry partners across 4 continents and the extra financial boost; along with support from investment expert Owen Sennet and AgorIP; will allow them to accelerate scale-up and provide the coatings industry a safer, smarter way to tackle corrosion.



Paddy Dodds, Calvin Richards and Alex Neilsen at the Active Office at Swansea University. The office generates, stores and releases its own power. Credit: Hexigone Ltd

Phil Buck, former CEO of Spencer Coatings Group, commented:

"In my forty years in the industry we have been looking for a comparable performance from an anti-corrosion pigment that we previously enjoyed when we used lead and chromate complexes. None of the new developments have given that.

Now at last we have a corrosion inhibitor that provides the level of performance that our clients need to protect their assets from premature failure.

Hexigone is now able to offer the corrosion [industry](#) what they have been looking for—a search which has spanned a generation."

Provided by Swansea University

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