



Galway Atlantaquaria is delighted to work with <https://sgiindustries.com/> and present our ZOONO strategy in the fight against COVID-19.

Zoono is a revolutionary product which can be applied to any surface to provide extended periods of protection against a wide range of bacteria, viruses and pathogens including COVID-19.

Normal disinfectant last up to 2 hours, Zoono Microbe Shield lasts for extended periods, giving massive labour savings to keep area free from harmful bacteria, viruses, mould and yeasts.

- Non-toxic, non-staining & alcohol free
- Proven technology

#### How does Zoono work:

Zoono technology is a game changing solution for reducing the transmission of pathogenic microorganisms from the environment. As a next generation antimicrobial surface protection capability, it continues to kill microorganisms for extended periods depending upon the application and environment. Unlike most disinfectants, Zoono works when it is dry. It can be applied to any surface with the simplest application such as spray/wipe or more sophisticated fogging techniques. Once the product is dry aesthetic cleaning can continue as it binds to the surface producing an invisible protective antimicrobial barrier.

# Zoono Tests and Approvals

100+ Independent Laboratory Tests

Approved by Boeing D6-7127 Rev P - Incorporating PDD6-8 (21 June 2012)

Approved by British Aerospace Airbus AIMS09-00-002(Issue 3, July 2011)

FDA and EPA approvals

Proven to be extremely effective against African SwineDisease, better than 4 log, in trials at Wageningen BioVeterinary Research Department of Virology, Holland

Food safety approvals NZFSA

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PAS 2424:2014 MSL UK

BS EN 13697:2015 Modified Method 7-day testJ001018-1 MSL UK

BS EN 13697:2015 Modified Method 30-day testJ001018-2 MSL UK

ASTM E3058 Modified Method for Vitro Skin J001030MSL UK

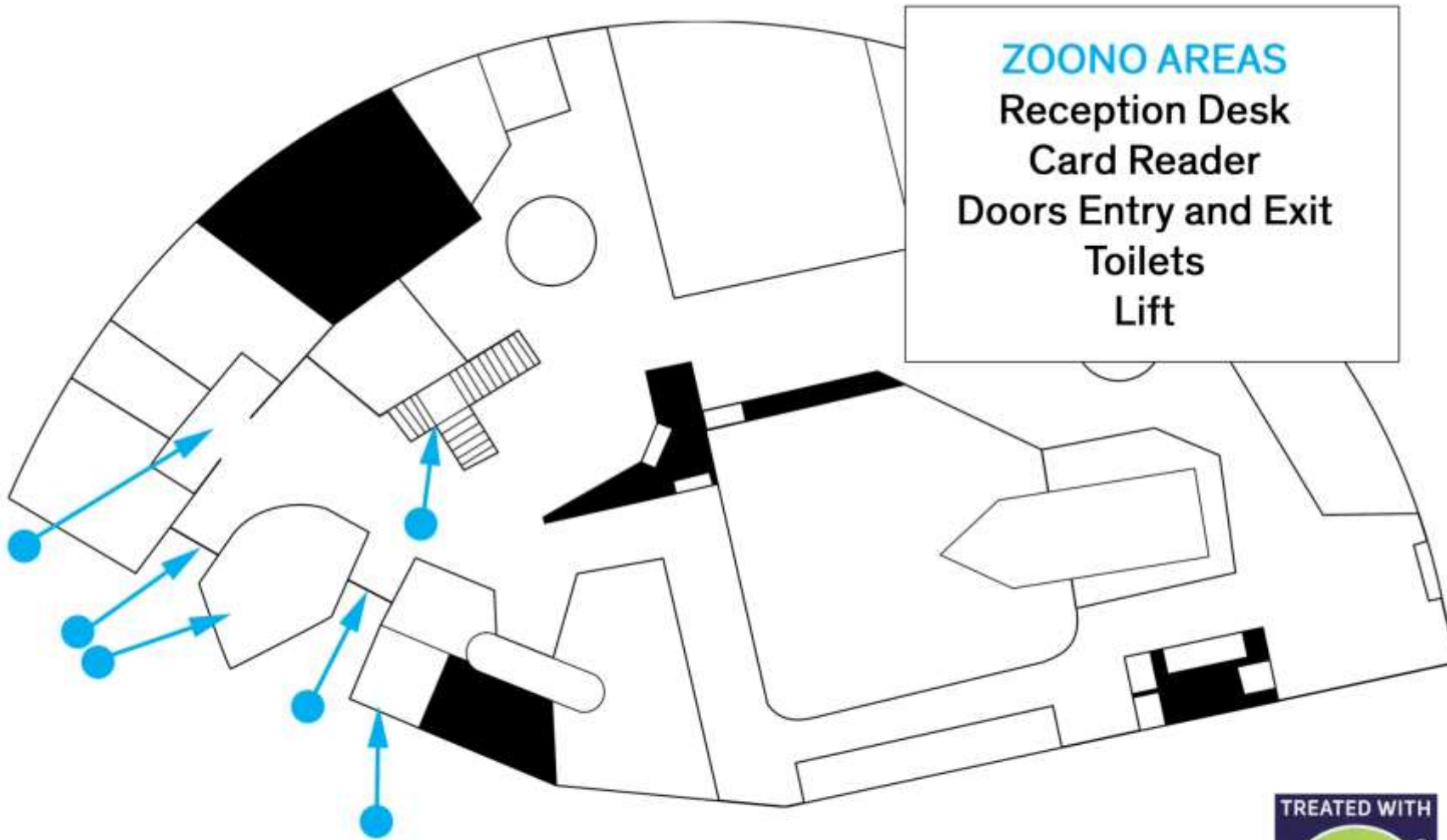
Proven effective against Coronavirus at MSL UK Test identification Reference: J001347 Reduced Screening test based on - BS EN 14476:2013+A2:2019

4-Rail Certification for ROLLING STOCK PROTOCOL ASSESSMENT Report No. 4RS-SF-190619-R676076



Galway Atlantaquaria will apply ZOONO on;

- Frequently used hand contact surfaces
- Card Reader
- Reception desk
- Door handles/rails
- Other applicable surfaces



ZONO provided by:  
<https://sgiindustries.com/>





# Treatment Certificate

Zoono Treatment Date:..... Signature:.....  
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This building has been treated with Zoono Z71 a broad-spectrum anti-microbial coating that is effective for extended periods of time.  
Zoono Z71 is also effective against bacteria, mould and viruses



tel: +44 (0)1403 782570 web: www.sgiindustries.com

Documentary evidence concerning 'Z71 Microbe Shield' was provided by Zoono indicating the following:

- Microbiological Solutions Limited (Report No. J001347; dated 27/2/20) reported the product had satisfactorily met the requirements of EN 14476: 2013 + A2 2019 (tested against the feline coronavirus surrogate, which is normal practice for this test standard).
- ERM Regulatory Services Limited Letter, dated 29/8/19 confirmed that 'Z71 Microbe Shield' satisfactorily met the requirements of Article 89 of Biocidal Product Regulation; EU Regulation 528/2012. GTECH Strategies Limited has noted that this would have validity until 28<sup>th</sup> August 2022, when a full suite of test data would be required.

## **6. Deployment since April 2020**

Since the onset of the Covid-19 pandemic, several major train service operators have contacted GTECH Strategies Limited to assist in compiling their technical assurance cases to enable them to deploy 'Z71 Microbe Shield' within passenger saloons and drivers' cabs of their rolling stock.

The technical assurance cases covered a consideration of health, safety & environmental impacts, a fitness for purpose assessment by an independent rail industry-oriented laboratory, microbicial efficacy data, case study data from the 2015 trial (see Section 4), prevailing fire performance standards and the methods of usage. It has been noted that the laboratory microbicial efficacy tests were bespoke. However, as a new and innovative product literature searches confirmed that there were no British Standard or Euronorm tests capable of determining efficacy for a product that was demonstrating residual microbicial activity on treated surfaces in the reported laboratory tests. Consequently, case studies that confirmed such activity was technically achievable were accepted as being indicative of a product capable of providing a higher level of protection than simply treating with normal surface disinfectants.

The final decision to deploy any material is the responsibility of the train operating company concerned. Consequently, all information, documents and data submitted in relation to 'Z71 Microbe Shield' was subjected to their own mandatory technical assurance and change documentation procedures. Since April 2020, several train operating companies made the decision to deploy 'Z71 Microbe Shield' in the passenger saloons and drivers' cabs of their rolling stock.

GTECH Strategies Limited has continued to support train operating companies to establish whether the 'Z71 Microbe Shield' treatment is providing the protection of surfaces against micro-organisms. In recent weeks swab testing for Covid-19, E Coli and Staphylococcus has been conducted by GTECH Strategies Limited in collaboration with an independent UKAS accredited test laboratory. A total of 72 test areas were swabbed across 23 trains in both passenger saloon and drivers' cabs, all of which had been in normal passenger service for between 8-30 days since the most recent application of 'Z71 Microbe Shield'.

A summary of the results is as follows:

- No presence of Covid-19 detected in any tests.
- No presence of E Coli detected in any tests.
- No presence of Staphylococcus detected in 70 tests – in the other 2 tests the amount detected was so low that the surface would still be classified as 'near sterile'.

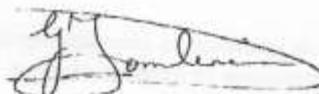
## **7. Conclusion**

In working to satisfy the technical needs of its rail industry clients, GTECH Strategies Limited has necessarily had to engage with the Zoono organisation (both its UK and New Zealand operations). The responses received have been swift, comprehensive and fully satisfactory.

Clearly the 'Z71 Microbe Shield' product is technologically new and innovative. However, the claimed performance of providing residual microbicidal activity is being demonstrated via the growing body of case study evidence that has been generated within the UK rail industry. In particular, the swab testing results reported in Section 6 indicate that 'Z71 Microbe Shield' is efficacious on normal service trains that have been in service for 8-30 days since the last occasion the product was applied to surfaces in passenger saloons and drivers' cabs.

GTECH Strategies Limited is of the view that further laboratory testing of the product would be highly beneficial in proving the residual microbicidal activity beyond all reasonable doubt. However, there would need to be engagement from both commercial laboratories and the agencies that set test standards in order to design a suitable test programme that would be capable of accurately and reproducibly assessing residual microbicidal activity in a laboratory setting.

Without such a test standard being available there has been a pressing need for the rail industry to mobilise its services during the Covid-19 pandemic. In achieving this goal, some train operating companies have adopted the principle of 'best endeavours' to treat contact points within trains with 'Z71 Microbe Shield'; the product appears to offer a higher level of protection than that developed by normal surface disinfectants and is compatible with the logistic and operational constraints of providing the train service and maintaining the trains in the depot environment.



Graham Tomlinson JP BSc (hons) CChem FRSC  
Technical Director

## **Footnote**

The information contained in this report has been commissioned by Zoono Group Limited.

GTECH Strategies Limited is an independent scientific consultancy and undertook the investigation impartially and has highlighted all pertinent issues that arose.

This report has been compiled by me, Mr Graham Tomlinson, Technical Director of GTECH Strategies Limited with the following technical assurances:

- Bachelor of Science honours degree in Applied Chemistry from Brunel University.
- Professional status of Chartered Chemist and Fellow of The Royal Society of Chemistry.
- 34 years of industry experience having worked in research & development, production, product management and, since 1994, in scientific consultancy within the transportation industry.

**TREATED WITH**



**ZOONO<sup>®</sup>**