



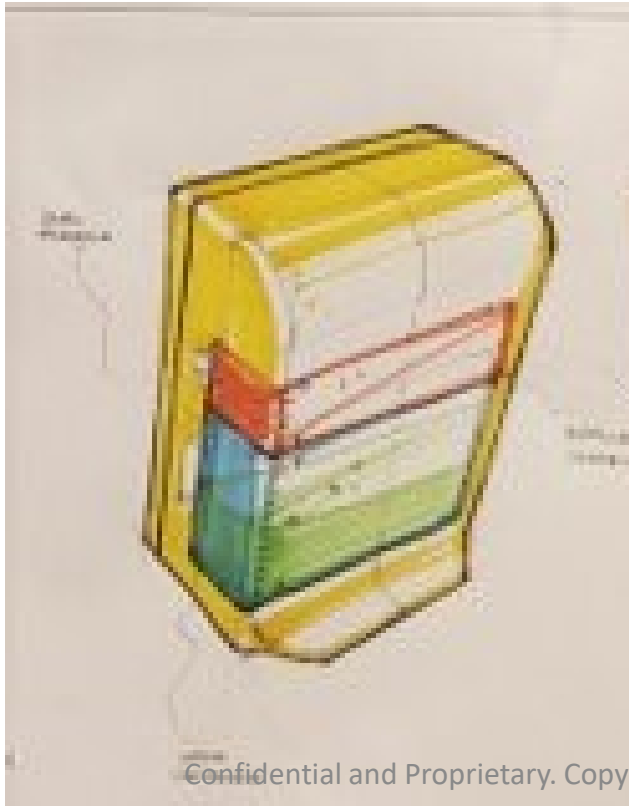
Aquamonitrix®

Real-Time Nitrite & Nitrate Analyser
实时亚硝酸盐和硝酸盐分析仪

May 24th 2022.
John McGrath

Company Overview 公司简介

- Aquamonitrix is an Irish based company that has developed water nutrient monitoring sensor technology aimed at addressing a market gap in the monitoring and management of water processing and quality.
- Aquamonitrix是一家总部位于爱尔兰的公司，开发了水营养监测传感器技术，旨在解决水处理和质量方面的监测和管理的市场空白。
- The Company has solely developed and Patented proprietary technology.
- 公司独立研发并获得了专有专利技术。
- The technology is already deployed across 20 sites in 10 different countries in the EU, US and Australia
- 该技术已经在欧盟，美国和澳大利亚等10个不同国家配置20个基站。
- The company has engaged in strategic partnerships to demonstrate the technology in 6 unique applications
- 该公司通过建立战略合作伙伴关系，在6类独特应用中展示自有的技术



The Product 产品



- Aquamonitrix uses a novel combination of fluidic dynamics and chemistry coupled with separation science and detection technology to deliver data points previously unavailable
- Aquamonitrix通过流体动力学和化学的新结合，并配合分离科学和检测技术来提供以前无法获得的数据点
- Engineered as an out of the box solution, it features incredible reproducibility, whilst maintaining accuracy.
- 作为一个开箱即用的解决方案，它在保持准确行的同时，具有令人难以置信的可重复性。
- It can move to different water quality matrices without need for recalibrations
- 它可以转换到不同的水质模型中，而无需重新校准
- Data availability ranges from cloud based IoT to local data management systems at plant control rooms.
- 数据可用性的范围包括从基于云端的物联网到工厂控制室的本地数据管理系统。

Where are we helping customers? 我们在哪里帮助客户？

Surface water (Watersheds) monitoring 地表水(集水区)监测

- NO_3/NO_2 measurement in rivers, lakes, catchments, dead zones 河流、湖泊、水库、死水区的硝酸盐/亚硝酸盐的测量
- NO_3 monitoring is needed to give the complete picture of the source of nitrogen, nitrate alone is not enough. 需要进行硝酸盐全项监测才能全面了解氮的来源，仅凭硝酸盐是不够的。
- Is the N coming from nitrate (fertilizers) or ammonium (slurries)? 确定氮是来自硝酸盐（肥料）还是铵（泥浆）？



Surface/ Groundwater & Drinking Water Monitoring 地表/地下水和饮用水监测

Groundwater/Surface Water - 地下水/地表水

- NO_3 & NO_2 measurement in catchments/watershed, boreholes, and aquifers. 集水区/水库、井眼和含水层中的硝酸盐和亚硝酸盐的测量
- Stable calibration, accurate results, low intervention. 校准稳定，结果准确，低干扰度
- Nitrate & nitrite values. 硝酸盐和亚硝酸盐值

Statutory Limit Monitoring 法定限额监控

- NO_3 & NO_2 in drinking water entering and/or leaving the plant. 饮用水进入和/或离开工厂时水中的硝酸盐和亚硝酸盐
- Nitrate and nitrite values. 硝酸盐和亚硝酸盐值



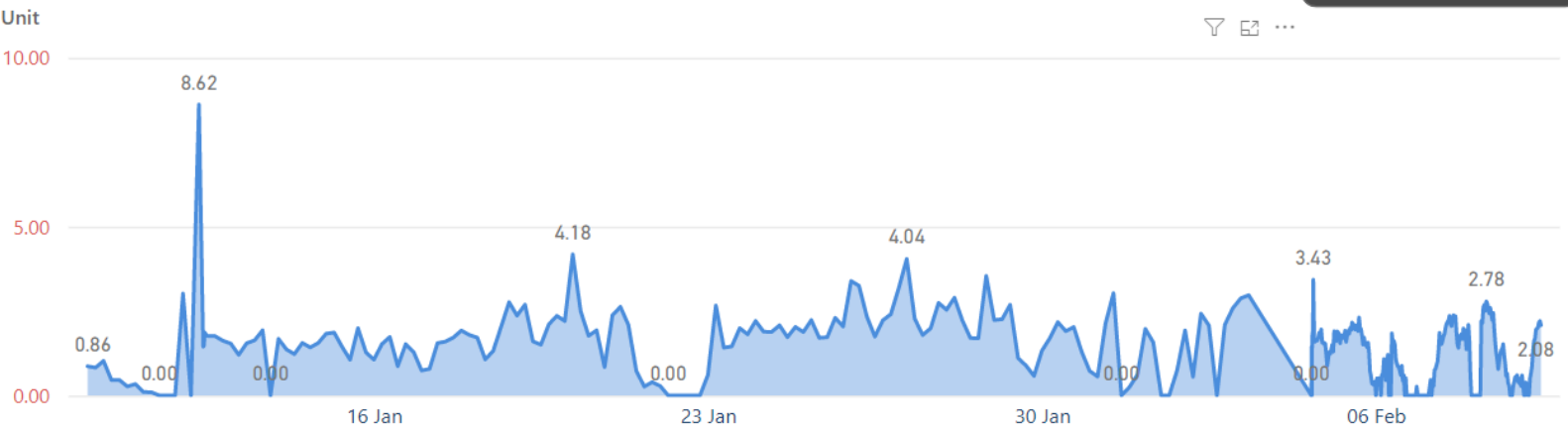
WATER QUALITY

Period All dates in UTC
Last 1 Months

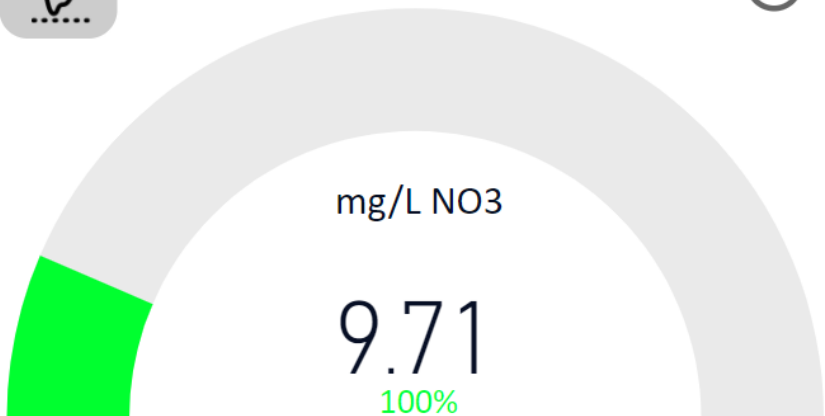
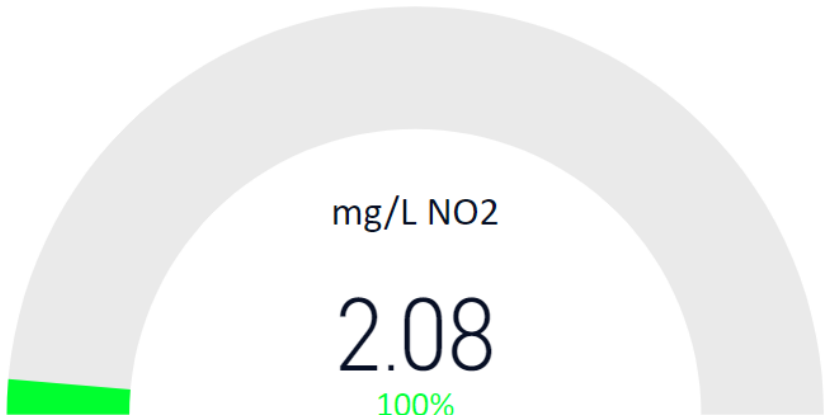
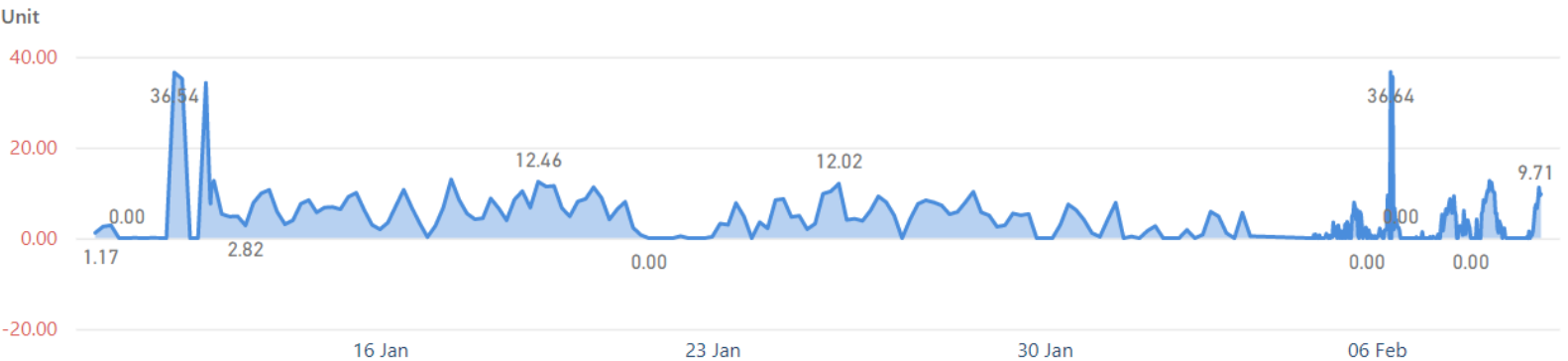
See History
See Environment

10/01/2022 - 09/02/2022

NO2 mg/L level over Time



NO3 mg/L level over Time



LAST STATUS READING

OK	OK	OK	OK	OK	OK	OK	OK	OK
Fluids	Fluent	Guard	Door	Leak	Tilt	Temperature	Unit Status	Humidity

Approvals for Aquamonitrix®

Aquamonitrix®取得认证



- Verified in one-month trials co-ordinated by US EPA and Battelle Memorial Institute to Environmental Technology Verification Standard - ISO 14034.
- 环境技术验证标准-ISO14034 由美国环保署和巴特尔纪念研究研究院协调为期一个月的试验验证。



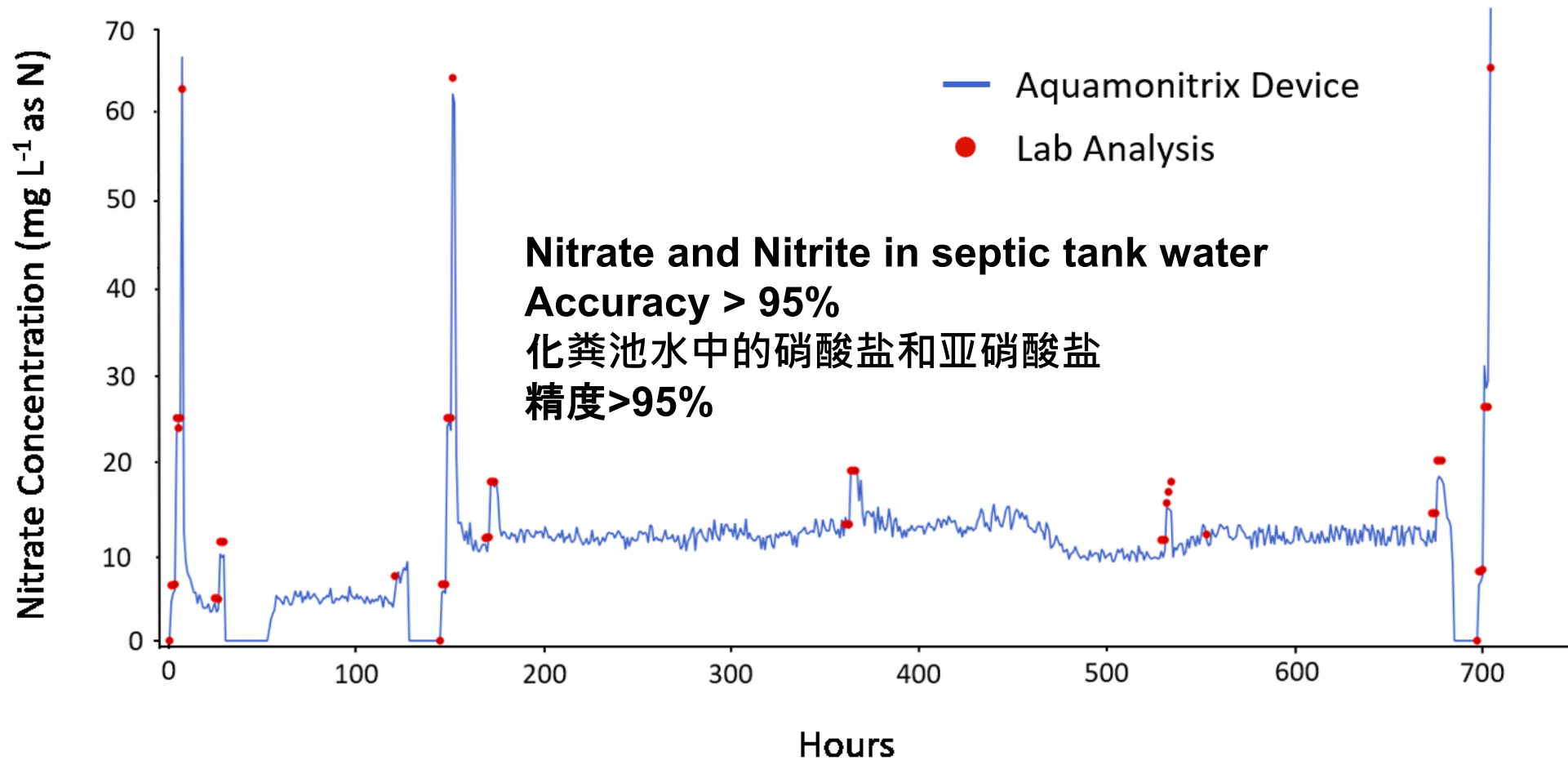
- Completed three-month Environmental Technology Verification testing with Scottish Water - Monitoring Certification Scheme
- 通过苏格兰水监测认证计划完成了为期三个月的环境技术认证测试。





Laboratory accuracy & precision 实验室准确度和精确度

BATTELLE



One-month verification trials at Massachusetts Alternative Septic System Test Center
在马萨诸塞州替代化粪池系统测试中心进行为期一个月的验证试验

How do we deliver this accuracy and reliability? 我们如何提供这类 准确性和可靠性？

- Aquamonitrix® combines rapid ion chromatography & LED detection
Aquamonitrix®结合了快速离子色谱和LED检测
- Simultaneous, selective detection of nitrate & nitrite in situ 同时，在原位选择性检测硝酸盐和亚硝酸盐
- Matrix Agnostic 不可知论模型
- Instant data communication via SCADA or IoT 通过数据采集与监视控制系统或物联网进行即时数据沟通
- Designed for reliability and tested for endurance 为可靠性和耐久性测试设计



Environmental
Test Verification
环境测试验证 –
(ETV) to
ISO 14034



ETV VERIFICATION REPORT

For TE Laboratories Ltd

Aquamonitrix® - Nitrate and Nitrite Analyser



The Director

*of the United States Patent and Trademark Office,
an application for a patent for a new and useful invention
and description of the invention are enclosed. The
of law have been complied with, and it has been decided
a patent on the invention shall be granted under*

Therefore, this United States

Patent

Technology & Intellectual Property 技术与知识产权

- 3 patent families - USA-Europe-China- Japan
- 在美欧中日的3类专利
- Registered Trademarks 注册商标
- Secret know how 技术秘密
- Formal IP systems 正式的知识产权

All is proprietary property of Aquamonitrix Ltd
以上均为Aquamonitrix Ltd的专有财产



UiT / THE ARCTIC UNIVERSITY
OF NORWAY



Key Customers/Partnerships 主要客户/伙伴

- Key Partners and Customers completing technology verifications for unique applications
- These Partnerships will facilitate deployment demonstration in marketing the product for each application, including
 - Nitrous Oxide Emissions
 - Energy Reduction
 - Chloramination
 - New water treatment verification
 - Ground/Drinking Water
 - Aquaculture

Competition 竞争



Why we are better 为什么我们更好

- Simultaneous, *selective* measurement of nitrate *and* nitrite *from the same sample*. 同时，选择性地测定了 *同一样品中的硝酸盐和亚硝酸盐*。
- Matrix agnostic. High accuracy and precision – no inference – even in wastewater samples. Low biofouling & blockage potential. 不可知论模型。即使在废水样本中，准确性和特异性也不需要进行推断。较低的生物污染和堵塞的可能性。
- Holds calibration - even while being moved from one sampling point to another. 持续校准-即使是在从一个采样点移动到另一个采样点时。
- Low power and chemical consumption. 低能耗和化学品消耗
- Easy setup , low need for maintenance/intervention, straight-forward servicing and long intervals between services , low requirement for specialist technical skills 设置简单，对维护/干预的需求低，服务简单，服务持续时间长，对专业技术技能的要求低
- Low OPEX/lifetime costs 低运营成本/生命周期成本

“It has allowed us to be really on-point with our water quality. By the end of the year, we expect the RAS salmon to have achieved double the weight gain of their counterparts outdoors”

“它使我们能够真正地关注我们的水质。到今年年底，我们预计RAS鲑鱼的体重增长将是户外鲑鱼的两倍”

Dr Jamie Downes, Marine Institute 海洋研究所

Thank You!
谢谢！

“The data we have got with the Aquamonitrix® nitrate and nitrite analyser is excellent. It has provided the hard evidence.”

“我们用Aquamonitrix®硝酸盐和亚硝酸盐分析仪得到的数据是极好的。它提供了确凿的证据。”

**Dr Paul O’Callaghan, Catchment Scientist, Irelands Local Authority Water Programme (LawPro)
流域科学家，爱尔兰地方当局供水计划**