

**Stock Data**

Share Price:	0.85p
Market Cap:	£1.52m
Shares in issue:	179.18m
52 week high/low:	1.50p/0.74p

**Company Profile**

Sector:	Electronic & Electrical Equipment
Ticker:	MSYS
Exchange:	AIM

**Activities**

Microsaic Systems plc ('Microsaic', 'MSYS', 'the Group') is a technology company involved in the development, manufacture and supply of microelectronics instrumentation plus consumables for international utility and commercial customers that require analytical testing within public and environmental health markets.

Website: [www.microsaic.com](http://www.microsaic.com)

**5-year Share price performance**


Source: [LSE](#)

Past performance is not an indication of future performance.

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# Microsaic Systems plc

Further to publication of Microsaic's delayed interim results plus readmission to trading on 12th November 2024, the Group yesterday released an important operational update. The reset and reinvention of its business model, that was enabled through January 2024's £1.8m equity funding round, has reached an advanced stage. Having complemented its miniature mass spectrometry operations with the integration of Modern Water's monitoring products, ongoing business and intellectual property, the Group is now able to recognise the scale of international opportunities being presented to its unique and technologically advanced range of testing and environmental solutions in the post-Covid environment. Its recent commissioning of a prestigious Continuous Toxic Monitoring ('CTM') systems contract in Doha for Qatar's general electricity and water utility, Kahramaa, highlights this perfectly. The fact that a second 2025 phase of this project is already under discussion, with potential to duplicate the initial installation across a number of further locations, along with ongoing demand for its high margin consumables, suggests the Group's offering is particularly timely. This year's showcasing of its upgraded and expanded range of instrumentation at major industry expos moreover, has met an enthusiastic response from participants urgently seeking such all-encompassing and fast response detection capabilities. Against this background, confidence in the Board's ambition to quickly expand early revenues, while improving on gross margins and positioning itself as a prospective leader in a target market that is projected to expand substantially over the coming decade, is rising sharply.

## Group to be re-named Metir plc at its forthcoming AGM

The Group's intends to change its name in order to reflect the much broader number of market opportunities its suite of technologies can now serve. Its recognised brand names, however, have been retained through its trading subsidiaries, Modern Water and Microsaic Systems. Shareholder approval will be sought at the AGM that is being convened on 11 December 2024.

## Business strategy – Addressing unique & under-served markets

Microsaic's strategic focus is on provision and development of proprietary technologies for testing and monitoring toxins in water and industrial effluents. This global market was said to be worth US\$4.45 billion in 2022 and growing at a 6.1% compound rate per annum over the period 2023-2030 (*source: Grand View Research report GVR-68040-069-5*). Ongoing demand for the Group's existing range of technological/automated products and services, whose offering is supported and continually upgraded/evolved by in-house and outsourced technical experts, is expected to sustain the annual revenue improvement recorded in H1 FY2024 for the full year. Modern Water has been successfully integrated into the business and has already become the principal high value contributor to Group activity and is expected to remain so in the near term going forward.

Working with Graham Mullis, the Group's recently appointed business advisor, focus has been on early revenue generation while continuing to invest in new applications, develop its distribution channels and look for

ways to drive greater gross margins. This is intended to lead to greater and wider market penetration and increased revenues. The Board also remains open to further acquisitions, building on the successful Modern Water business purchase to accelerate its strategy.

### Cash runway into 2H FY2025

Microsaic's present net cash position is materially unchanged from the £257k it had already detailed for 11 November 2024. In anticipation of receipt of two tranche payments for the Qatar project, one being imminent, plus anticipated VAT refunds it is reasonable to expect a material near-term improvement in its cash position. Factoring-in further revenue generation from prospective Qatar project sales of newly upgraded MicroTox® LX devices and MictoTox® reagent sales, plus anticipated receipt of an R&D tax credit during the first half, based on a continuing burn of <£110k/month operations appear set to remain funded up to the beginning of the second half of the new financial year. By this time the Group is expected to register an upward shift in customer contracts in tandem with increasing high-margin activity from ongoing maintenance/sales of consumables.

The reverse stress test performed as part of the Group's FY2023 sensitivity analysis, provided a detailed assessment of cash flow projections based on a severe but plausible downside scenario. It concluded that a minimum sales level of approximately £84k/month, in addition to the Qatar contract, were required to enable it to remain liquid and with positive cash headroom over the coming twelve months. While the Directors consider this remains an achievable target for the new financial year, they nevertheless acknowledge that it exceeds the levels achieved in the year ending 31 December 2023 and in 2024 to date. Anticipating a busier FY2025, however, Bob Moore, Microsaic Systems' Executive Chairman and Acting CEO, noted in his Interim statement that the Group was "... very encouraged by the nature of enquiries and rewards that are coming our way. We look forward to providing further updates to the market in due course."

### Qatar project highlights urgent need for continuous, automated water monitoring systems

On 27 March 2024, Microsaic announced that twenty-seven CTMs previously delivered by Modern Water were to be installed by its regional partner, Avanceon Limited, in order to constantly monitor Doha's public water system through online testing. A subsequent purchase order to the value of €571k (of which two tranches accounting for 80% of the total has now been invoiced) was received for supply of associated equipment and consumable items for the CTM instruments. These will provide an early warning system for the presence of any toxic chemicals in the capital's potable water, enabling fast network shutdown if required. MicroTox® reagents used in the CTMs are capable of detecting over 2,700 potential toxins that have been scientifically identified. Being one of the most comprehensive early warning solutions available anywhere in the world, it comes in the form of neatly presented, full-time operational and networked instrumentation. All related consumables are scheduled to be shipped before the end of 2024 for project completion.

The end user, Kahramaa, is Qatar's sole transmission and distribution system owner and utility operator for the electricity and water sectors. Its engineers are currently undergoing training to operate the CTMs with final acceptance expected to follow shortly.

Kahramaa is overseeing a significant expansion of its domestic drinking water operations. Potable (desalinated) water production in Qatar for 2024 stood at 538 million imperial gallon per day ("MIGD") following the expansion of its Umm Al Houl plant. Production capacity is expected to reach 638 MIGD after commissioning Ras Bu Fontas new plant (Facility E) in 2028. Its main and sub-water distribution systems expanded from 7,427 kilometres in 2013 to c.8,829 kilometres presently, with further planned development being expected to take this to approximately 10,000 kilometres by the end of 2028. Kahramaa's own website notes its 2024 commissioning of a 'Real Time System, Acute Toxicity Monitoring of Drinking Water for Chemical, Biological and Radiation Monitoring' at four pumping stations in what is said to be 'the first phase' of this programme.

Recognising that utilities generally seek to standardise such instrumentation across their entire network of pumping stations and distribution systems, the second phase of the project that is already under discussion for 2025

could result in the purchase, installation and maintenance of a much larger number of CTMs at a number of new sites across Qatar in coming years.

### **Microtox instrumentation upgrades expected to drive sales in 2025**

Microsaic has significantly invested in upgrading the design and operation of its MicroTox<sup>®</sup>-driven devices. This has enabled incorporation of the latest technologies to meet with customer requirements, including improved user interfaces. This in turn is expected to deliver an increase in sales of instruments, all of which use various forms of MicroTox<sup>®</sup> reagents as their key consumable.

#### **MicroTox<sup>®</sup> LX – A newly upgraded laboratory-based device**

Production has just started for Modern Water's newly upgraded laboratory-based MicroTox<sup>®</sup> LX device. Firm initial orders have been received for eight units, of which five are scheduled to be shipped in December to international customers. This industry standard laboratory device for early screening of toxins in water was first showcased at 'Weftec 2024', North America's largest Water Environment Federation's Technical Exhibition and Conference, in October. The upgraded MicroTox<sup>®</sup> LX attracted considerable interest from a number of sector players, which has since turned into firm orders and sales.

#### **MicroTox<sup>®</sup> FX – A small handheld instrument which can be used for screening potable water in real-time**

Modern Water is evaluating wider market interest in its small handheld instrument which can be used in remote locations for screening potable water in real-time. For possible military use the MicroTox<sup>®</sup> FX is being showcased in Q1 2025 at the permanent UK Defence and Security Exports exhibition site at Larkhill, England, where allied overseas armed forces can examine and try new products of specification suitable for their field applications.

#### **Tethys Purity<sup>®</sup> Initiative – A multi-instrument and MicroTox<sup>®</sup> reagents solution**

Modern Water has developed a brand known as 'Tethys Purity<sup>®</sup>', for which commercial launch is presently scheduled for early in 2025. Based around Modern Water's and Microsaic's toxic monitoring range of equipment and benefitting from the experience and feedback gained while creating an expandable, networked CTM solution for Kahramaa, this all-encompassing suite of products comprises a fully integrated multi-instrument package that combines various of the Group's proprietary technologies along with MicroTox<sup>®</sup> reagents solutions for online/automated water safety testing.

Instrumentation and technologies from Modern Water, Microsaic Systems and other selected partners are being networked to deliver bespoke solutions to customers that require constant live and online data monitoring capabilities. Tethys Purity<sup>®</sup> devices are expected to provide continuous centralised dashboard data monitoring plus real-time analysis using machine learning software (AI) that is presently being reviewed. In collaboration with Siemens and their technical support provider, CAD-IT, trials of specialist coding are underway for the digital transformation and centralised recording and analysis of data generated by the Group's products. Microsaic is working with regional offices of the British Department for Business and Trade to promote the Tethys Purity<sup>®</sup> solution in GCC countries and elsewhere.

#### **Pathogen Detector Development & Consortium - Expects to move project to proof-of-concept shortly**

Microsaic had previously been commissioned by Modern Water to design and build a pathogen detector. This was initially developed to measure and detect the Covid-19 virus in water and resulted in the building of several working prototypes. As part of the subsequent acquisition, the Group acquired the design, prototypes and rights to manufacture this product and went on to state its intention to further evolve the device for multi-pathogen detection. Having already repurposed it to detect Cryptosporidium (found in sewage polluted water), management has future plans to add multiple (possibly up to nine) common water-borne pathogens for concurrent testing. As was previously announced, it is continuing to work with Aptamer Group plc (AIM: APTA) along with other

specialist contractors to complete this development.

The system will be easily transportable, therein offering a significant step forward for on-location, real-time detection and identification of multiple pathogens including viruses within minutes (rather than the hours and sometimes days required for more traditional laboratory fixed units and detection methods). The Board believes this will provide a unique solution, even permitting customers to specifically tailor the detection requirements. The project is expected to move to proof-of-concept ('POC') shortly and commercialisation, subject to resources, may be scheduled for around the end of 2025.

#### **Polyfluoroalkyl ('PFAS') and Acrylamide Systems – Meeting unmet need for small, minimum detection units**

PFAS substances have been linked to various health problems, including certain cancers. This is of major concern across key western markets, given the widespread use of this group of manmade chemicals for non-stick, waterproof, and flame-resistant applications. Microsaic's mass-spectrometer technology is well positioned to address this emerging market opportunity, due to the portability and accuracy of its testing (parts per trillion), and aims to provide the leading 'point of use' system for PFAS detection and measurement. Microsaic considers this to be another example of where the Group's unique and proprietary technology can service a presently unmet need through supply of small, portable minimum detection systems. It is working with Swansea University to identify and analyse the broadest range of PFAS chemicals possible, having also entered early-stage partnership discussions with a number of different enterprises that share its interest in this important environmental market. The scale of this prospective opportunity has been highlighted by research undertaken by MarketResearch.com (8 October 2024), in which it identified a global PFAS testing market that was valued at US\$336m in 2023 and is expected to grow at a CAGR of 9.33% to reach US\$893m by 2034.

Microsaic also continues to monitor the market for detection of potentially carcinogenic acrylamide in heat treated foods. Customer trials of its modified detection equipment (which is based on the MiD4500 mass spectrometer), are expected to begin in H1 2025. It will be working with a specialist partner that provides automated sample preparation methods for testing in crisp products.

#### **Sulphate Reducing Bacteria Kits - Production is expected to start in 2025.**

One of the factors driving high costs and a cause of considerable frustration for corrosion engineers is the necessity to determine the presence of Sulphate-Reducing Bacteria ('SRB'). Modern Water's original QuickChek SRB test kit was designed for on-site use and makes identification easy in a field portable kit. It does not require pipetting or serial dilution, with the quantitative detection of the APS-reductase enzyme only present in SRB. This can help to prevent souring of product due to elevated hydrogen sulphide gas by offering real-time determination of biocide treatment decisions. With the design and rights to manufacture having since passed to Microsaic, the Group has recently identified growing demand for such products, particularly in the Middle East. Production of a re-branded device is expected to get underway in 2025.

#### **MiD4500 Manufacturing – Lowering manufacturing costs to improve profitability**

With ambition to reduce manufacturing costs and improve the profitability of Microsaic's mass spectrometer, MiD4500, the Board has decided to end subcontract manufacturing of the product, bringing it in-house instead through the opening of a smaller manufacturing facility in Woking, England. This is expected to considerably lower-cost and provide a more adaptable facility that will also be capable of producing the new PFAS Detector as market demand develops. Evidence of continuing customer interest in the MiD4500 remains but Microsaic expects future sales and revenues to centre around units in the form of modified equipment for PFAS and ProteinID monitoring, in addition to ongoing service and spares revenue for units already in the field.

Although not all prospective sales should be expected to become firm orders in the short-term, the final count could be boosted through the recent appointment of a new European distributor, Avantor Sciences. Avantor is a leading life science tools and advanced technology provider of mission critical products and services.

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