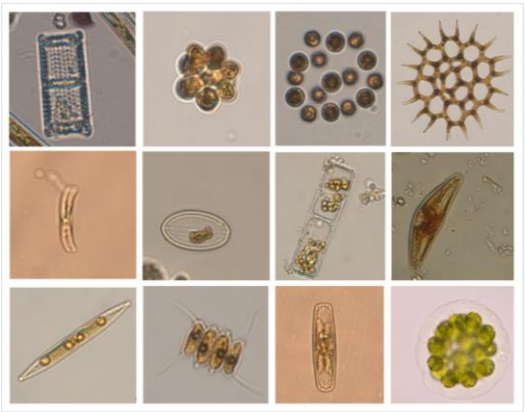
Algapro™

An AI-based automatic phytoplankton identification and counting technology

Algapro™ revolutionizes traditional phytoplankton monitoring approaches and integrates deep learning and state-of-the-art algorithm to automatically detect different phytoplankton. Regular phytoplankton monitoring is important to diagnose the water quality and aquatic ecosystem's health to protect against Harmful Algal Blooms (HABs), enabling safe water for everyone.

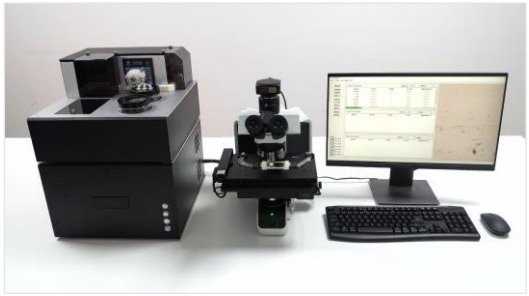
To date, Algapro™ systems have been deployed with water utilities in Singapore and China.



Large Scale Phytoplankton Monitoring

ZWEEC's proprietary phytoplankton detection technology enables phytoplankton monitoring at large scale and high frequency to protect water resources from algae contamination by breaking the limitations of professional manpower resources, relieving experts from labour-intensive manual microscopic examination.

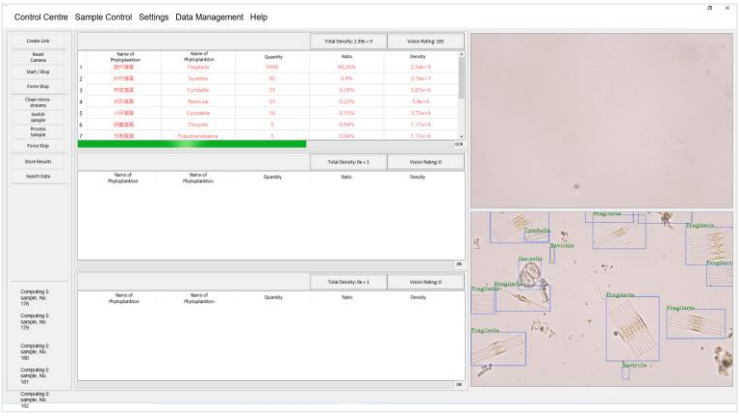
ZWEEC's Breakthrough: Deep Learning + Automated Expert Systems



- ✓ High-speed processing: 15 units of samples in 6 hours
- ✓ High accuracy: more than 80% accuracy
- ✓ Overcomes challenges of skilled manpower shortages
- ✓ Fully-automated
- ✓ 4X time and cost savings compared to traditional methods

View of System Dashboard

Real-time analysis and computation of phytoplankton identification, differentiation, and count



Technical Specifications

Power	• 220~240VAC, • Maximum 1000W
Dimensions	• Sample control chamber: 38 X 40 X 45 cm • Digital scanning microscope: 35 X 40 X 48 cm • Monitor display： 23.8” • Keyboard and mouse: Standard USB keyboard and mouse
Operating Environment	• Indoors • Temperature: 0 - 40°C • Humidity: < 90%
Industrial PC	• Intel Core i9 processor • Nvidia RTX2060 graphics card • 16GB RAM • 500GB Hard-disk
Video Camera	• 6.3 million pixels • 1/1.8” Sony CMOS • USB3.0
Microscope	• Olympus BX • Lens: PLN40X， 20X， 10X， 4X
Observatory Plate	• 3 micro-stream tubes
Sample Chamber	• Capacity of 15 glass bottles
Size of Sample Bottles	• 15ml per glass bottle

ZWEEC
VISION FOR TOMORROW

Building the Next Evolution in Water Technology

ZWEEC is a leading Singapore-based technology company focused on building innovative and secure water technology solutions. Adopting an integrated and data-driven approach, our solutions leverage on advance analytics, artificial intelligence and predictive modelling to power IoT solutions that drive early intervention opportunities. Our award-winning water technology solutions, available as on-premises implementation and as secure cloud solutions, are trusted by water industry leaders from Singapore, Australia, China, Taiwan, the US, and the Middle East.

www.zweec.com

Headquarters
512 Chai Chee Lane #05-07,
Singapore 469028
+65 6776 6711
enquiries@zweec.com

R&D Centre
PUB Singapore Water
Exchange, 84 Toh Guan Road
East #03-05, Singapore 608501