Hydromantis Environmental Software Solutions, Inc.

Hydromantis based in Hamilton, Ontario, specializes in the development and application of innovative software-based technology for modelling, simulation, and control of wastewater treatment plants. Hydromantis is the developer of GPS-X^{TM}, a dynamic modeling and simulation platform for wastewater treatment plants. Hydromantis products and services have received attention from engineers and researchers around the world.

Many unique technologies have been developed by the company. These include tools for:

- Dynamic modelling of wastewater treatment plants;
- Wastewater treatment plant optimization technology;
- On-line Treatment plant diagnosis and operational control;
- Operator training using its SimuWorks^{TM} platform;
- Planning level costing of wastewater capital, maintenance and operations - CapdetWorks^{TM};
- Estimation of VOC air emissions from Industrial Wastewater – Toxchem^{TM}

Hydromantis products and services are one of the crucial part in any plant optimization exercise to reduce energy footprint (Getting to Net-Zero). The flexible simulation platform with state of the art process models allows engineers to evaluate the performance of any wastewater treatment plant configuration under various operational scenarios. The predictive process and energy consumption algorithms along with robust optimization engine allows engineers to determine the best plant operating conditions to minimize energy and chemical cost while still meeting the compliance criteria. The new energy efficient process technologies and their overall impact at the treatment plant can be evaluated against the existing benchmarks during pilot stage, thus allowing technology developers to identify, resolve and improve its technology before commercialization.

In addition to the traditional desktop analysis, the plant models can be integrated into real time operation management system to provide on-demand analysis, diagnostic or control of the wastewater treatment plant processes.

SimuWorks™, the model-based operator training simulator developed by Hydromantis, is used extensively by operators to enhance wastewater treatment process knowledge. Operators can explore complex relationships among various operational parameters, plant performance and energy recovery/consumption. Advanced training leads to better trained operators who will be able to understand, participate and contribute to plant optimization goals set by the plant managers.