

Comprehensive, Flexible and Integrated to meet all requirements

Comprehensive

Adaptive Wireless Solutions and Greecycle Systems partner together to deliver comprehensive solutions for waste recycling plants combining wireless mesh networking, flexible SCADA software, plant control equipment and first class process/mechanical/electrical system design. Plant performance and control are enhanced, and compliance with all regulations is eased, due in part to the robust and detailed monitoring that is possible with wireless systems.

Flexible

Although wired communications methods are used where needed, using wireless as a key communications method makes the implementation of plant monitoring and control extremely flexible, quick and simple to install, and very well-suited to

optimisation of plant performance over time as demands change. In particular the monitoring of key process attributes to ensure quality control and prove compliance with regulations is critical. Wireless provides unprecedented flexibility to get this right.

Integrated

Whether your requirement is for more data to feed into an existing plant control or compliance reporting system, or a complete end to end plant system including a SCADA software package, Adaptive Wireless Solutions and Greecycle Systems can provide a solution tailored to your plant needs and budget. Our services include site survey, plant and system design, equipment selection, project management, installation, commissioning and plant optimisation advice.

Potential Solution Elements

Windrows, Sealed Bunkers or Rotating Vessels

Whether your plant uses windrows, bunkers or rotating vessels the plant design and wireless system accommodates them all with various probe and control solutions for each type of process.



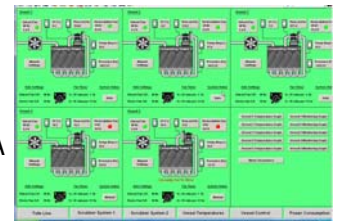
Air recirculation and heat recovery

With sealed vessels air can be blown in to assist in composting or pasteurisation processes. Exhausted, moisture-laden air can pass through air-to-air heat exchangers to recover heat energy



SCADA control

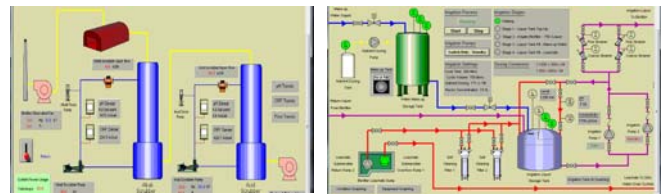
Whether using PLC's or direct control from computer systems we can provide expertise in numerous common SCADA packages including DAQFactory and Wonderware InTouch.



These are usually linked to the wireless system using Modbus TCP over the plant LAN.

Scrubber and BioFilter Control

The SCADA system can be integrated with the scrubbers and biofilters to optimise building negative pressure for odour control, differential pressure can be monitored(?)



Wireless process parameter recording

Individual battery-powered probes or wirelessly enabled wired probe sets per bunker or vessel can be provided to give minute-by-minute records of process variability and status. Wireless devices are fully protected from the plant environment.



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Wireless Mesh Network

The self-healing, self-forming features of wireless mesh sensor networks make installation quick, flexible and economic. Wired connections are used where most appropriate. (?)

Easily Integrated

Compatibility with virtually all existing plant systems and software is assured through use of **industry-standard interface protocols** between plant system and wireless gateway, such as Modbus TCP and RTU and FTP transfer of .csv format data.

Quickly Installed

Battery-powered sensing for the most commonly required inputs makes installation extremely fast which minimizes your costs and minimises disruption to plant operation compared with wired systems.

Flexibility for optimized use

The mesh networking capability makes it easy to provide resilient and reliable wireless coverage across a building or plant site, including penetration through walls and floors of typical structures. Sensors can then be located wherever they are needed and moved around at will to optimize system performance

Vast range of Sensors

With a very wide range of integrated sensor types including temperature and humidity, PIR, contact closure and pulse inputs as well as support for attachment to 4-20mA and 0-10V sensors the range of sensing inputs is virtually unlimited.

Control Outputs

With on-board 0-10V and relay outputs the wireless system can also provide control where needed.

Wireless mesh network schematic showing

- general arrangement of a solution
- I/O and sensor types available
- mesh network backbone
- line- and battery-powered devices

