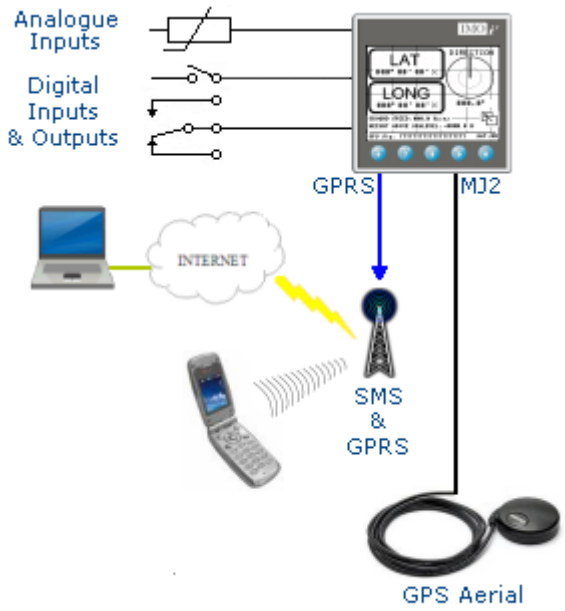
Asset Management

IMO's ***i³*** controller offers a unique solution since it is both a PLC and HMI combined in one device. It is also small, very powerful and has many unique connectivity features. One such feature is the GPRS modem option, which is ideal for applications where the controller is somewhere out in the field.

If we add to all of this the ability to take input from a GPS aerial, we have instantly created a tool which can not only control a process, but can also tell us where that process currently is in the world.

Applications for this could be mobile generators, temporary traffic light systems or road side mobile matrix signs. If you have expensive equipment in the field, the ***i³*** can not only control that equipment, but can keep track of where it is. This is known as asset management and is very important in today's business environment, where we cannot afford to lose valuable resources.

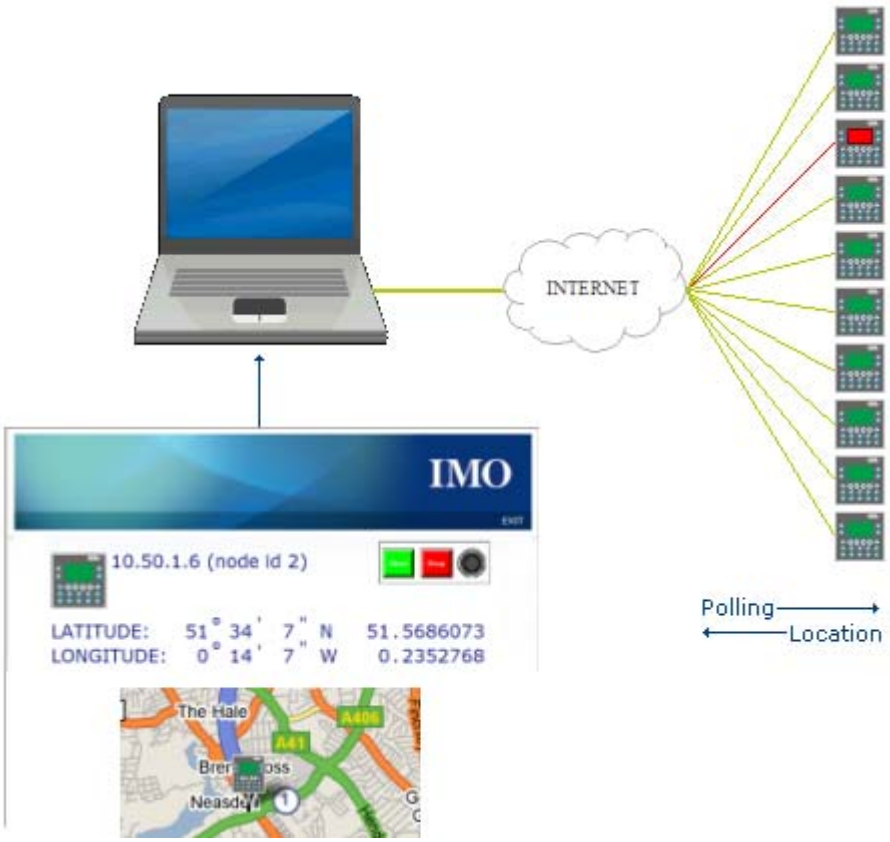


- Using a standard ***i³*** controller
- Addition of a GPRS modem option
- Inputs and outputs control a process in the usual way using ladder logic
- Connect a GPS receiver to MJ2
- The ***i³*** can transmit its position by SMS or GPRS, either on request (polling) or on an event driven (unsolicited) basis

What Is GPS?

The worldwide Global Positioning System (GPS) consists of a set of earth-orbiting satellites and ground stations. GPS allows a portable receiver (plane, ship, car, hand-held or personal device) to calculate to a high degree of accuracy its current position and other similar information. More than two dozen GPS satellites are in medium Earth orbit, transmitting signals allowing GPS receivers to determine the receiver's location, speed and direction. The position of the receiver can be determined any time, anywhere, in any weather by knowing its distance from three or more satellites. The calculation of the position of the receiver is achieved by knowing the precise location of the satellites at any given time and the time taken for a radio signal to reach the receiver from each of the satellites. The position of the receiver is given in latitude, longitude and altitude. The precise location of each satellite is determined in a similar manner using the stationary ground stations.

How Do We Locate Our *i*³s?



- Panel-Point SCADA*lite* used to monitor remote stations
- Multiple sites constantly polled
- Locations are returned as longitude, latitude and height above sea level
- Panel-Point displays equipment locations by interfacing directly with Google Maps
- Detected alarm conditions are also returned and can be reacted to quickly
- Equipment which is in alarm can be highlighted on the maps

Please note that great care should be taken when designing a system with remote connection capability. Under no circumstances should the remote connection be able to control safety critical aspects of the system. Safe guards should be built into the internal logic of the control systems to prevent remote operation causing danger to operators. The remote operator should never assume things are safe at the other end, and should confirm with an engineer on site that the system is in a secure state before remote diagnosis is attempted.