

Automated Production Monitoring and Reporting System

Client:

Client is an operational improvement consultancy consistently delivering on its promises. By taking current strategic positions as a given and instead focusing on the operational side, Client helps unlock the value within the organization, by utilizing the existing resources to a higher level.

Client operates worldwide, having completed challenging assignments within the EU, USA, Africa and Asia.

Business Need:

Client requires an automated production monitoring and reporting system that can collect production / assembly-line data in real-time. Machines in the assembly line will have sensors and data acquisition systems to collect this sensor data. The data collected is then processed in a central server and reports created. These reports will enable the management team to analyze production efficiency and help resolve these issues at a higher granularity than with manual data collection.

The Challenge:

- a. Understand assembly line process automation. Also understand some standards used to improving process automation efficiency and effectiveness.
- b. Create a generic solution that can be used by many industry segment confectionery, machinery manufacturers, poultry, etc
- c. Make the solution cost-effective by using sensors and other embedded hardware that has the required tolerance and accuracy, but at the same time not high in cost.

Acropetal's Solution:

Hardware:

- Custom-made IR based sensor.
- Off-the-shelf Touch-Screen monitor
- Off-the-shelf high-end PC as server. The server solution can be scaled up a cluster of servers.

Software:

As for the software/application, it was possible to provide a generic system, which had standard reports, even standard UI, both in PDA and server.

Sensors:

For a particular industry segment, a custom make IR sensor is being used. But the system is capable of integrating other sensor, sensor data, depending on need.

Technologies:

SQL Server 2005, Reporting Server, Visual Studio 2008, PIC Microcontroller, IR Sensor

Benefits:

End user can get up-to-date data on the running assembly line and thus take immediate action on issues on the floor. It is also possible to create many analysis reports based on data collected over a period of time to enable management to make correct decisions to improve overall effectiveness of the entire factory.