



System & Environment Effective Reports

Introduction Presentation Q4 2010 Latest Build: Subversion 4.32

S.E.E.R is a project started within Sorrento Lactalis, Inc. Buffalo manufacturing plant as a response to an inability to deploy machine HMI and report functions plant wide; and to allow access to this system from anywhere within LAG's network.

This project has been progressing and operating in the Buffalo plant for the past two years.

Benefits to Manufacturing and Production



- **Separation, Pasteurization, and Filtration Processes**
 - o Real-Time monitoring of equipment
 - o Provide Historical Information regarding equipment
 - o Sanitation Logging and Quality checks
 - o Paperless Chart Recording
 - Following Federal and State Guidelines
- **Clean in Place (CIP) Sanitation Monitoring and Reporting**
 - o Real-Time Monitoring of Cleaning Systems
 - o QC Control to determine Time Since Cleaned
 - o Paperless Chart Recording
 - Following Federal and State Guidelines
- **Bulk Materials Monitoring**
 - o Real-Time Snapshot of Bulk Material Levels
 - o Historical information for Forecast Purchasing and Month End Calculations
 - o Provides analysis of material used over time.

Benefits to Corporate / I.T.

– Easy Integration with Existing Systems



- **Integration with Corporate Systems**

- o Raw material information can be exported directly into PRIZM System
- o Integrate with GMP or other Operations Tools
- o Integration with third party Analysis Tools
- o Improved Traceability within plants

- **EXAMPLE - Integration**

- o Eco-Lab, a chemical vendor, provides a Chemical Usage Projection Service, which enables them to suggest the date of and quantity of chemical reorder for a plant based upon its usage of chemicals, analyzed over a period of time.
- o Typically requires installation of a set of sensors – even if the plant is already recording the exact same data with existing sensors, a telemetry recording device, and a transmission device for communication with the data service used by Eco-Lab.
- o Buffalo monitors its bulk raw chemical stores with the S.E.E.R. System, and worked with Eco-Lab's data support partner (Endress-Hauser Instrumentation) to develop an add-on for S.E.E.R. This add-on allows S.E.E.R. Data to be retransmitted to Endress-Hauser's data servers disguised as a transmission from a Fieldgate sensor.
- o This effectively saved the Buffalo plant roughly \$15 k USD in what would have been additional costs for redundant, unnecessary, sensory devices.



Benefits to Packaging

- Scheduling, Quality Control, and Supervision



- **Checkweigher Tracker**

- o Real-Time Monitoring of Performance and Reporting broken down by Batch.
 - Rejects are identified by mass and by the exact date and time of rejection.
 - Analysis of Giveaway / Takeaway (gain / loss).
 - Standard deviation plot, etc...
- o In the even of a recall, S.E.E.R. Allows the user to report every weight that crossed a particular checkweigher over a given time period, to prove what was accepted and what was rejected.
- o Compatible with any checkweigher with an individual-weight-output connection.

- **Atmospheric / Controlled Environment Tracker**

(Coolers / Brine Canals / etc...)

- o Real-Time Monitoring of Temperature, Humidity, and Atmospheric Pressure
- o Historical Trending and plot of Standard Deviation from Average
- o Removes the need for a person to do periodic rounds in an area, and can be applied to not only rooms but also vessels / canals / pits or any other 'controlled' environment.

Benefits to Packaging

- Scheduling, Quality Control, and Supervision (continued)



- **Packaging Efficiency and Alarm Tracking**

- o Real-Time Monitoring of Packaging Equipment
- o Provide Historical Information regarding equipment
- o Alarm Tracking for Preventative Maintenance

A *dedicated* module was created for S.E.E.R. to effectively and robustly execute this function, and to include all of the features that Buffalo's operators, supervisors, maintenance, and management wanted in an efficiency system.

- reliability, accuracy
- ease of use, simplicity
- full featured reporting



- **O.E.E. - and - T.E.E.P.**

- o For each line, the machine operator, running product identification, and critical machine performance data are recorded by S.E.E.R.
- o The operator, as well as supervision, can see an analysis of their performance in real-time, while they're running the product.
- o Supervision and Management can run Historical reports to analyze downtime, efficiency, production units (pounds / eases / etc.) per hour produced versus target rates.
- o Downtime events are identified and sorted into Practical Categories to allow Management to address problems more easily.

A WISE CHOICE

... an All-in-One Solution



SCADA / HMI

S.E.E.R offers a Supervisor Control and Data Acquisition tool that provides real-time data and allows user response to plant and machine issues.

HISTORIAN / REPORTER

S.E.E.R also provides effective machine reports to rate performance, efficiency, materials used, energy used, conditions observed, etc. etc. etc...

This package was specifically designed to enable a company to:

- reduce wasted resources***
- save money***
- enforce machine operation policies***
- and ultimately make the task of running a plant easier.***

S.E.E.R. Does that, and does it with **greater effectiveness, flexibility, and less cost** than any other package.

Cost Comparison



S.E.E.R. - vs - GE Fanuc / Boite Noir

This is somewhat apples -to- oranges, but the point is made more strongly. The Boite Noir package, powered by GE Fanuc's Proficy, offer's functionality roughly equivalent to 30 % that of the current 4.x series builds of S.E.E.R.

Line item	Boite Noir	S.E.E.R.
Software Delivery	\$63,000	\$0 (mandatory)
Server / Computing Hardware	\$6,000	\$15,000
Plant Updates / Contracting (Infrastructure / Sensors / etc.)	\$62,000	\$62,000
Factory Acceptance Test	\$44,890	n/a
End User Training	\$6,825	\$5,000 (estimate)
Maintenance Team Support Training	\$18,793	\$0
Install, Validate, and Test	\$19,627	\$13,800
Validate Performance	\$9,557	\$0
Yearly Fees	\$23,402	\$0
	\$254,094	\$95,800

S.E.E.R. Just saved you over \$150,000...

*...and it is constantly being developed and enhanced, adding **more and more features**, which are **all free** under the GNU AGPL v3 License.*

Visit Online



S.E.E.R. - on DIRGE

The pilot system is online, internally, at...

<http://dirge.lag.local/seer>

- Access restricted to Lactalis agents only, and not accessible via the Cloud.
- You will require a username and password to login. Use the Help and Support link at the bottom of the page to request one from a System Administrator.

S.E.E.R. - on the World Wide Web

The project is actively maintained by its author at...

http://www.spinellcreations.com/spark/project_seer.php

- Access to a full-featured set of screenshots (various items are blurred for security).
- Download the full source code (requires compliance with the AGPL and GPL License Terms as described in the source file).
- Browse around and get more information on the backbone software behind S.E.E.R.