

# ANALYTICS USE CASE | Utility

## Advanced Analytics Visualization – Power Plant Control System Data

At a publicly traded gas utility company, a number of different advanced analytics tools, designed to process large datasets, provided immediate visibility and value.

### Power Plant Control System Data

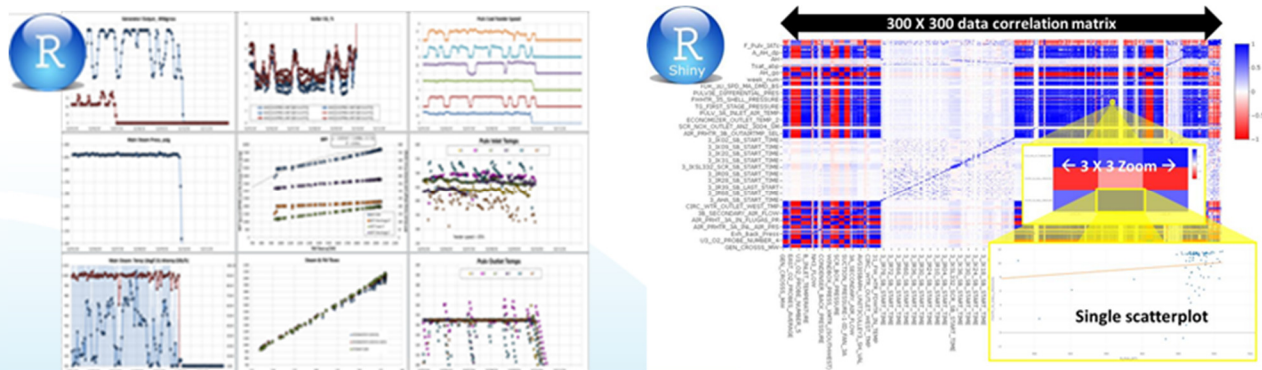
Power Plant control systems generate a lot of data. The good news is it is really clean data. It is coming from IoT sensors in the same format with machine generated data values. However, harnessing that volume of data in traditional tools is cumbersome.

Using RStudio's visualization tool, Shiny, this utility was able to ingest millions of rows of interval data and provide first level organization and sorts of the data. There were several (9) key sensors that Plant Operators really cared about. Historically, they would attempt to pull each sensor's data, one at a time, to an Excel spreadsheet. That's nine independent spreadsheets.

The word *attempt* is purposeful; the process took the better part of a week to perform, mostly because the desktop spreadsheets would crash frequently and the process have to start over.

Using Hadoop distribution tools, the Data Analyst was able to design a job to ingest all the control data at one time (in a matter of minutes), leveraging the power of server-installed Hadoop. The only effort remaining was to pull the data into Shiny (designed to work with Hadoop) and develop some custom aggregations to replicate the spreadsheet Plant Operators were used to looking at.

Once all sensor data was in Shiny, the Plant Operators were able, for the first time, to see all their data on one dashboard. More importantly, they were able to leverage the advanced analytic capabilities of Shiny to cross correlate over 900 individual data columns.



**Summary Key Points:**

- Even though the data was “clean” in the sense that it came from IoT sensor machine data, 80% of the time for this Use Case was spent accessing, understanding and preparing the data to make it fit for use.
- Once the data was ready, and with a small investment to learn an advanced analytics visualization tool, generating insights was relatively easy.
- Conclusion? Data Science was the easy part. It was 10% inspiration and 90% perspiration!

**Keller Schroeder’s Data Strategy Group**

At Keller Schroeder, we absolutely subscribe to the idea that Data Science, Machine Learning, and Artificial Intelligence are skills that every organization should have, and, in a connected, social media, *Internet of Everything* world, are vital to your company’s future. **We think it is that simple - not easy, but simple.**

Keller Schroeder’s **Data Strategy Framework** is a comprehensive implementation framework developed to help your organization establish the data lifecycle management practices necessary to successfully apply advanced analytics for your business benefit.

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**manage data. do science. get better**

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