

CASE STUDY

HVAC SYSTEM ANALYTICS



 Upgrade **Evolve**

TECHNOLOGY ENVIRONMENTS HUMAN PERFORMANCE

MISSION OBJECTIVES

EVALUATION OF BUILT IN DATA COLLECTION WITH ANALYTICS

- REPLACING PNEUMATICS WITH CAPABLE ECS
- ENVIRONMENTAL CONTROL SYSTEMS WITH TRANSPARENT DATA COLLECTION
- ADVANCED SYSTEM CAPABILITY THROUGH TUNING AND ADJUSTMENT

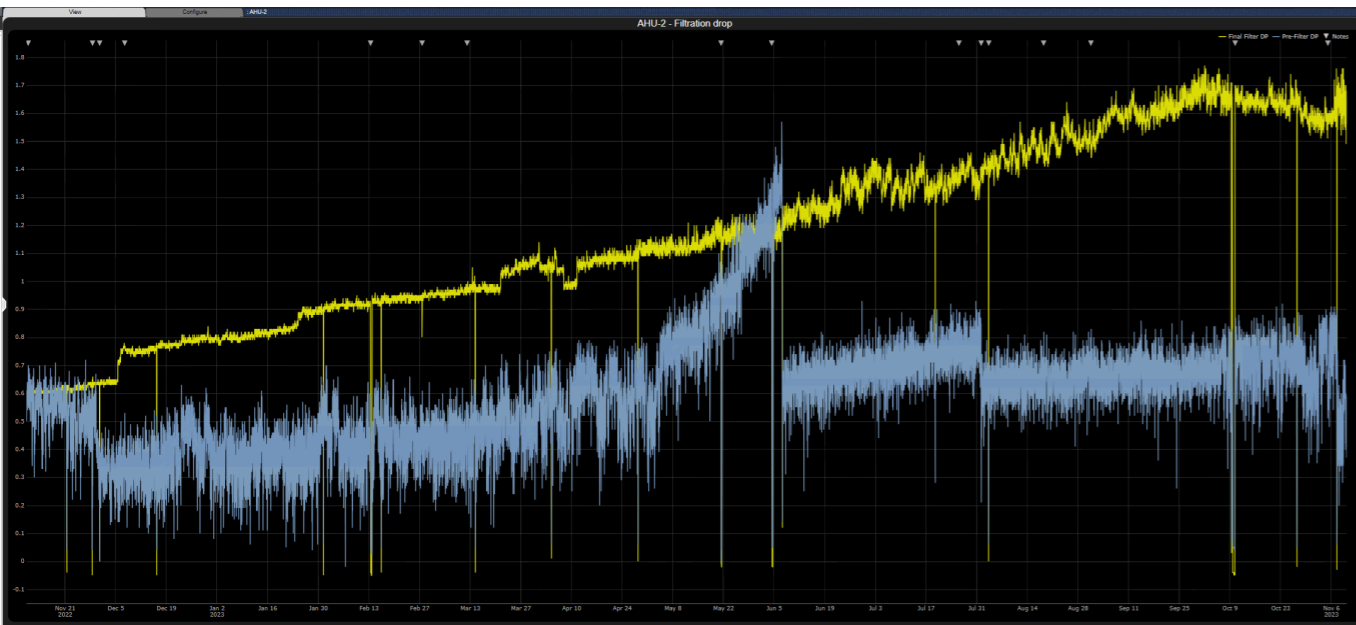


Analytics is the new term hitting the electronic marketing media and the lips of every new sales person probing for pain and trying to strike at residual sales commissions. But is this the same old cereal in a new box?

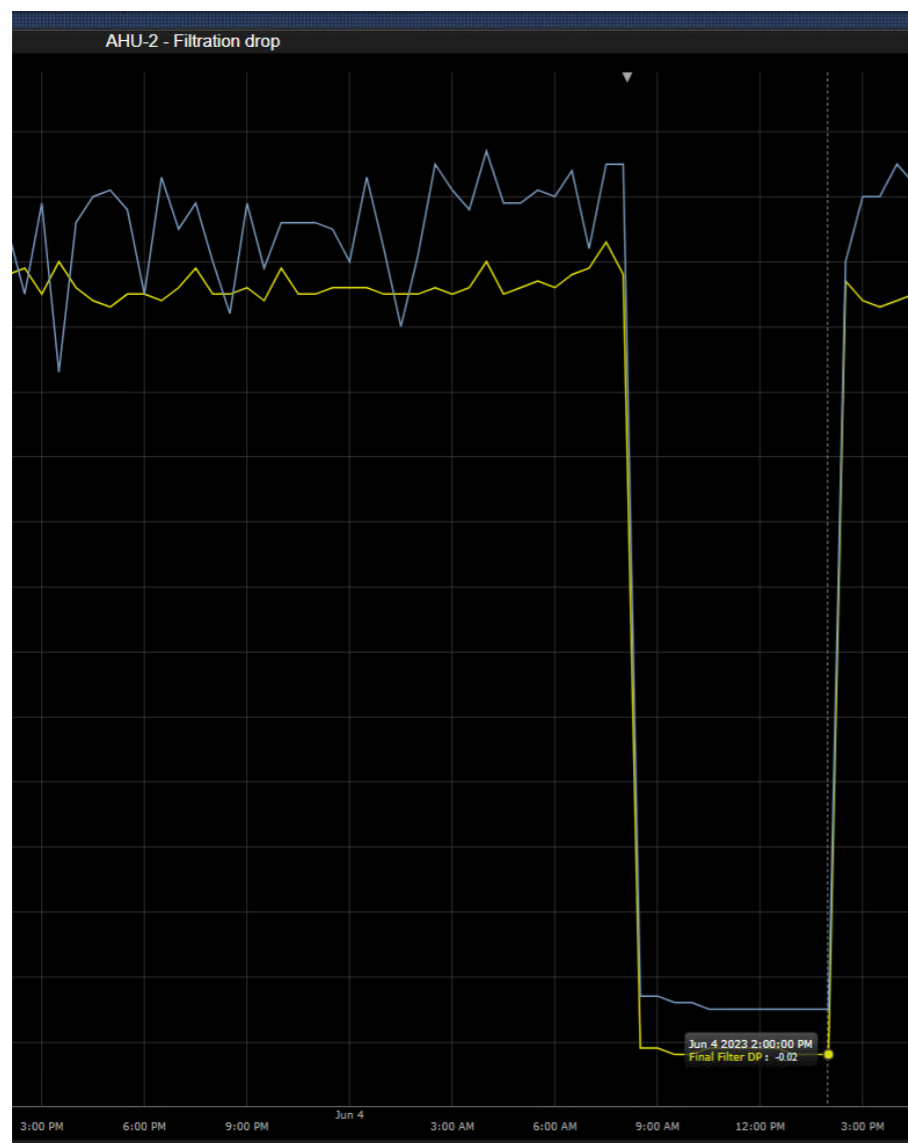
Analytics means organized and categorized information using computational methods with highly organized theoretical algorithms created by field experts. I think we all hope to find these methods and tools available. However, for the custom programmed HVAC systems of today it is difficult to find a magic bullet that comprehends and organizes these proprietary products into collated analytical fault analysis reports.

Enter the world of lowered expectations where the products we had in the early 2000's have not kept up and the included features are stripped away into extra fees for software services called analytics. No doubt some of these services are a value but many are overusing terms such as "AI" and are still using spreadsheets To pour through data transfers to hunt for errors.

Well designed systems with minimal trending tools can provide incredible and precise analytics to program, tune, and create efficient and reliable systems. In addition they can track service outages and prevent neglect of expensive equipment and systems.



For example the upper left graphic is a plot of an entire 372 days of operation and measurement of a two stage filtration system on a hospital air handler. It is obvious when the pre-filters were refreshed (blue) and that the final filters (yellow) were not for an entire year. Even a simple “zoom” feature allows us to pinpoint the exact dates and durations when the unit was shut off on June 4th from 9AM to 2PM. Whether this outage was unplanned or not it uncovers the precision of information that can be housed and utilized in a modern Environmental Control System.



When evaluating products for performance and value, it is their ease and transparency to automatically collect and organize data that delivers value without additional contracts and licenses. This is the promise of 21st Century technology and without this we are just repeating the past mistakes. There is no evolution of products when these tools are not included or are not useable.