DATAXCHANGE

Rule Based Expressions

Edge Analytics

The Scytec DataXchange machine monitoring platform uses rule based edge analytics to process shop floor data immediately as it is acquired. One of the primary benefits of DataXchange's rule based analytics is to ensure the data recorded matches the definition of the processes taking place. The best looking dashboards, charts, and reports are meaningless if the data is not believable based on your definition of what is actually happening. The following are a few examples of scenarios where rules can be used to categorize data appropriately.

- Should small stops due to events such as tool changes be tracked as run time or a downtime?
- If the machine is in setup should run time be categorized as running, or should the machine stay in a downtime of setup?
- If a machine is running a warmup cycle, should it be tracked as running normally, a planned downtime, or as a warmup time and excluded from the utilization calculation?
- Should notifications be triggered if a machine is running in low feed rate override too long?

Questions such as these are subjective and the answers very well may change over time. Flexibility with the rules are critical for long term success with any machine monitoring system.

Customizable Rules

The rule-based engine within DataXchange can pull data from MTConnect, OPC UA, Fanuc FOCAS, Haas NGC, Modbus TCP, operator interfaces, sensors, hardware modules, external systems, and so much more. DataXchange evaluates all of the data received from the shop floor equipment, sensors, the operators, the data repository, and from all other defined sources in real-time through user-defined rules, called **expressions**. The expressions allow for the data to be immediately acted upon and categorized in a way that matches the processes happening on the shop floor.

If the data is not representing your processes, then how much value can the data really provide?

Edge Analytics

The Purpose of Using Data

The purpose of using manufacturing data is to evolve the shop floor, and the business as a whole, to the next level. **As you evolve, the purpose of data does not change, just the way you use data changes**. Therefore, if the data collection and machine monitoring system is not flexible enough to evolve with you, then you will quickly outgrow the system. Scytec DataXchange will allow you to grow with the data and ensure the data always stays meaningful regardless if you are just starting with basic monitoring or if you have a complex smart factory environment.

If ((A=B) OR (C=False)) AND (D>0) Then Execute X

Notifications and Escalations:

The Scytec DataXchange expressions are used not only to categorize the data so it can be stored accurately, the expressions are also used for notifications. The rules can trigger emails, text messages, and Microsoft Teams chats. In addition, the expressions can update messages on the RTV dashboards, and update indicators providing a modern day Andon system. The notifications aren't limited to text content or dashboards either. The expressions can interact with the Scytec DataXchange Operator Data Interface (ODI) and make the screen flash providing a visual notification to shop floor personnel when action is required for a variety of different scenarios.