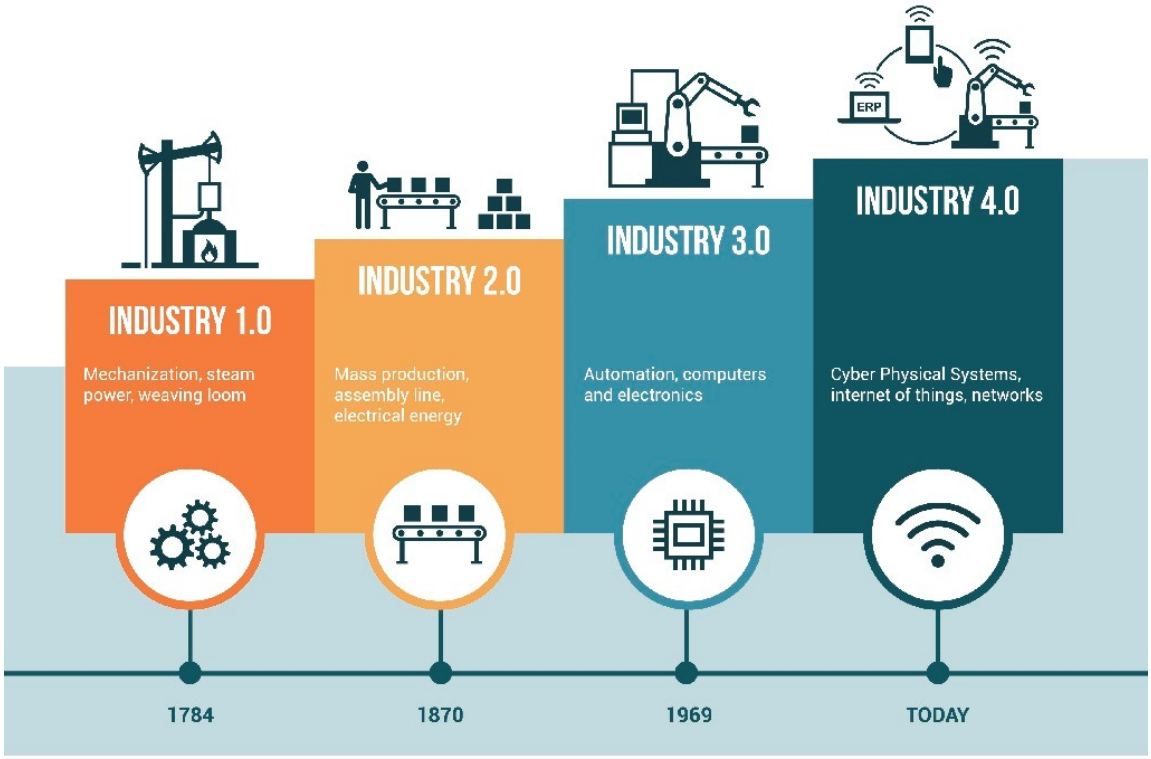
The VIEW Vision

Keeping Your VIEW Current - Oct. 17, 2019

Big Data and ESPC

We live in a world of “Big Data”. Our phones track our commute to work, on-line shopping provides merchants with our preferences, and internet search engines analyze our likes and dislikes. Data is captured and analyzed to predict our future behavior. *Predictive Analytics* are also utilized in our manufacturing environments. If we can track and analyze characteristics of our manufactured components, we can begin to adjust "predictively" our processes prior to failure. The effort of collecting and monitoring dimensional data during the manufacturing process began with Edward Deming (wikipedia.org/wiki/W._Edwards_Deming) during the rebuilding efforts in Japan after WWII. The use of Process Control Charts, which depict dynamically specific characteristics, provide a graphic representation of the variability in our processes.
With the advent of high speed automated measuring systems (VIEW pioneered such with the RB-1 in 1977 -- wikipedia.org/wiki/VIEW_Engineering), the ability to collect measurement data from manufactured components has increased tremendously. High speed cameras, accurate positioning stages, and techniques like strobing, have advanced the state of the art of measuring systems. The recent trend towards Industry 4.0 provides the opportunity of collecting data from the entire factory for the identification of factors that add variability to our processes.

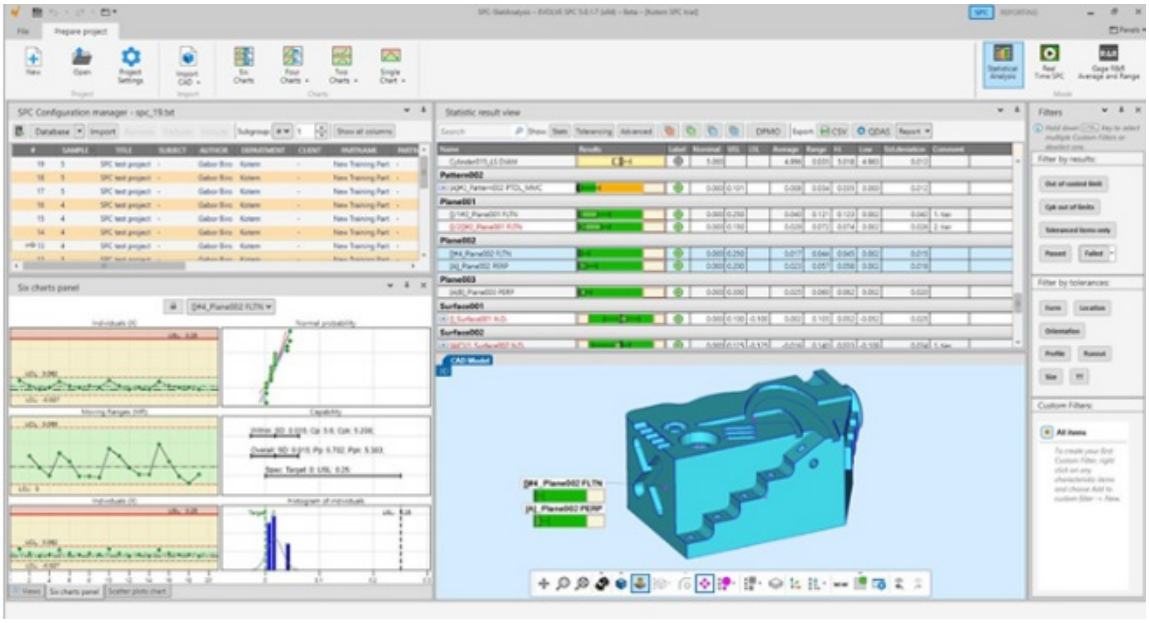


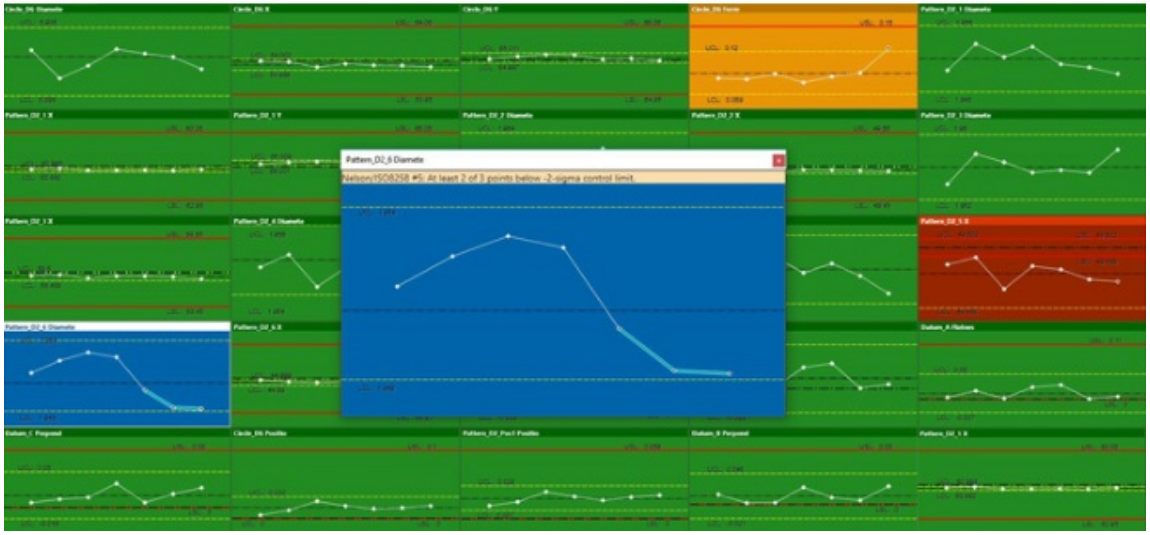
The manufacturing process becomes closed loop and improves incrementally with addition data that is used to improve processes.

Measurement data is used to improve not only the *Manufacturing* processes, but the overall *Quality* of the product by improving the *Design*. It all starts with good and valid *Measurement* data.

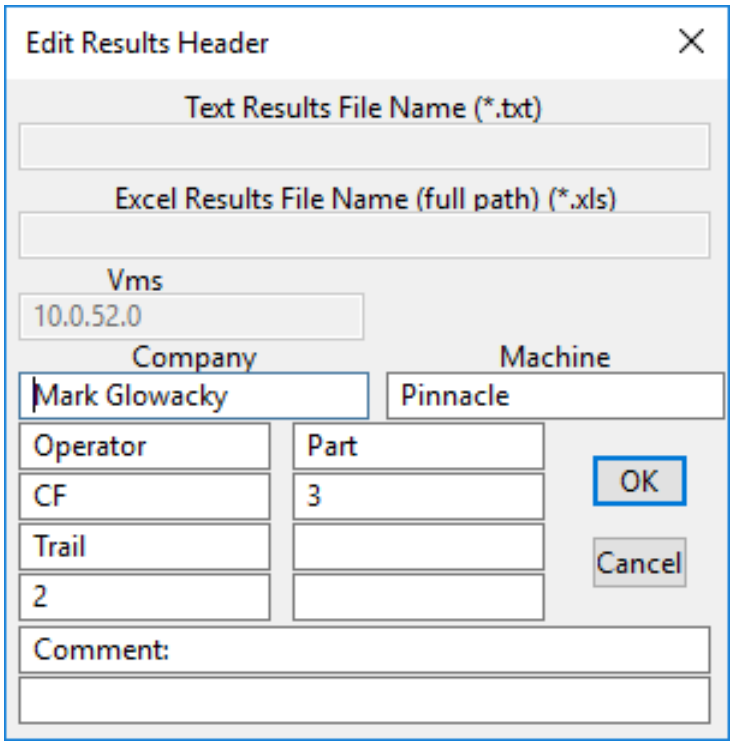
The primary purpose of VMS and VIEW measurement systems is to acquire dimensional and attribute data. VMS provides functions like **“resultout("Label " + fformat(, "#.0000") + nl())”** , **“excel(Argument)”**, **“open(File, FileName, ReadWriteMode)”**. Functions like these, as is common with VMS, allow the user to define and construct to their specific usage.

ESPC is an ancillary tool that can be used directly with VMS to manage, compile, and analyze your measurement data. Data is automatically stored in SQL-type records for selective retrieval, based upon “metadata” (part specific inputted data that uniquely identifies the data such as Operator Name, Date, Time, Color, etc). This provides the opportunity to selectively retrieve data to perform testing to identify sources of variability that affect the manufacturing process.



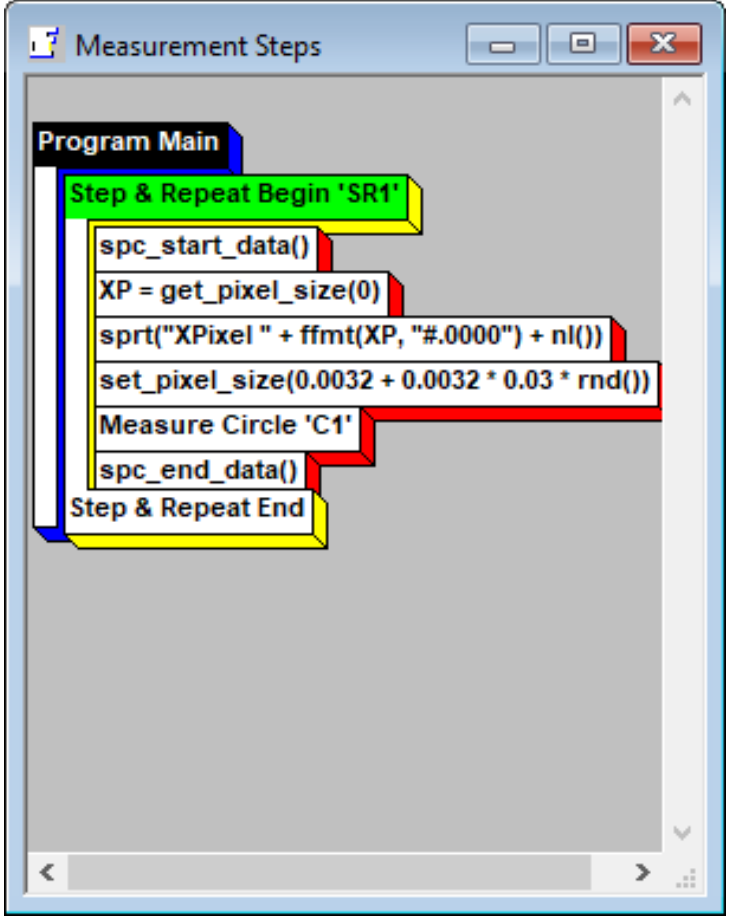


In addition to the storage in a database, **ESPC** offers Real-Time Process Control charting, descriptive statistics, correlation analysis, Gage Repeatability and Reproducibility studies and analysis, and template-based reporting. The VMS Edit Header can be used to enter the unique characteristics of each record which can be easily set-up for a GRR study.



ESPC is available for a 30-day trial by access through the Kotem web-site. kotem.com/evolve-suite/evolve-spc/. Kotem is a QVI company. You will receive a temporary license. A permanent license can be purchased from the On-Line Store at the same web-site.

VMS requires the use of two new functions that are used to surround the measurements you want to export to **ESPC**. The new functions are: **"spc_start_data()"** and **"spc_end_data()".** The following sample VMS program depicts the usage of these functions in a program that generates sample data.



ESPC provides a tool for the management of measured data that allows "Big Data" to be utilized throughout your manufacturing process. Contact us and we will walk you through the set-up of **ESPC** and VMS. You can review a short video on **ESPC** at https://vimeo.com/253794619.

Coming up in the next edition of ***The VIEW Vision***: Image Stitching

VIEW has always been committed to providing support for our products, regardless of age or condition. We maintain a limited inventory of unused, re-engineered and refurbished parts to support older systems. Unfortunately, some components have become unavailable. When this happens, older systems must be upgraded, if possible, or replaced. Certainly, the newer technologies provide greater utility and efficiency, which justify the cost and effort. Contact us for information on upgrading or replacing your older VIEW systems.

How to Contact Us

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