Granite State Newsletter – March 2025

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MESSAGE FROM THE CHAIR

Planning for 2025 is well underway with membership meetings planned for March, April, and May as well as a one day workshop in May. See below for information.

Our robust partnership with nearby sections continues with information from Merrimack Valley, Worcester, and Vermont programs.

Pine Tree, in Maine, doesn't appear to be an active section. We would like to contact anybody from Pine Tree, see below.

Our partnership with nearby sections provides a rich opportunity for members to gain knowledge and receive Recertification Units, RUs. This is particularly important since ASQ decreased the number of RUs for some activities including meetings.

In addition to providing opportunities for RUs, the section would like to know about new certifications earned. If you recently received a certification please let us know so we can congratulate you. See below.

We have moved our Membership Meetings to Tuesdays to avoid a conflict with Merrimack Valley's Wednesday meetings. The Worcester Section has also changed their meeting day to avoid conflicting with our meetings.

There are many opportunities to get involved. We need people to join the SLT, to speak at Membership Meetings, and to write Professional Development articles for this newsletter. To become involved for 2025 please contact Dan O'Leary, the Section Chair, at doleary@memberleader.asq.org

We look forward to seeing many members at our first meeting of 2025 planned for March 18, 2025 at the Pilgrim in Manchester, NH

Dan O'Leary CMDA, CQA, CQE, CRE, CSSBB

GRANITE STATE MEMBER MEETINGS

Tuesday March 18, 2025
Bharat Arora – A Quality Perspective on Drug Product and Medical Device Development
Puritan Restaurant – Back Room – Manchester, NH
Networking: 5:30 pm to 6:00 pm
Dinner: 6:00 pm to 7:00 pm
Presentation: 7:00 pm to 8:00 pm

Registration: https://mp.gg/zgxoo4sw

Developing a drug product or device or a combination product presents similar opportunities and challenges yet different perspectives. Join me in this interactive session to:

- Understand the product lifecycle of drug product, medical device, and combination product development
- Understand Regulatory expectations and Quality Management Systems integration
- Barriers to seamless integration between drug product and device development teams for early and late stage development
- Synergies for collaboration and how Quality professionals can play a pivotal role

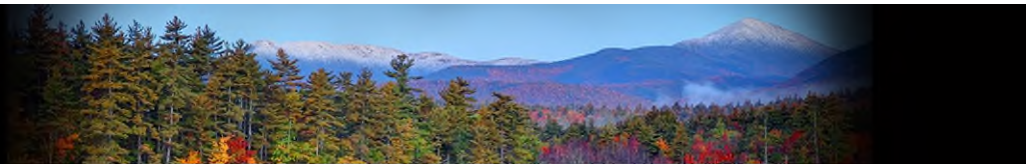
Tuesday April 22, 2025
Note: The date has changed from the earlier planned date.
Dan O'Leary – Predictive Supplier Evaluation
Puritan Restaurant – Back Room – Manchester, NH
Networking: 5:30 pm to 6:00 pm
Dinner: 6:00 pm to 7:00 pm
Presentation: 7:00 pm to 8:00 pm

The three essential parts of the supplier management process are evaluation, selection, and re-evaluation.

Evaluation is a method to compare two or more suppliers on specified characteristics. The presentation describes a straightforward method to determine some of the characteristics and compare them using an Excel radar chart.

Selection determines which of the evaluated suppliers to use, updates the Approved Supplier List (ASL), and enters them in the Supplier Master in the MRP system.

Re-evaluation is, by far, the most extensive of the three parts and repeats for years. It answers the basic question, "Is this supplier still good enough for the company to continue to use it?' The answer usually employs analysis of metrics based on delivery and quality. Traditional metrics look at past performance, but the



presentation has a metric to predict future performance and provide a signal when the supplier is headed for trouble.

The presentation also includes supplier information at Management Review and considerations on providing supplier scorecards.

Tuesday May 20, 2025
Laura Halleck – Reduce Supplier Risk and Ensure Customer Satisfaction through APQP and PPAP
Puritan Restaurant – Back Room – Manchester, NH
Networking: 5:30 pm to 6:00 pm
Dinner: 6:00 pm to 7:00 pm
Presentation: 7:00 pm to 8:00 pm

The application of PPAP is being expanded beyond the automotive industry, most recently to aerospace and defense with the release of AS9145. The AS9145 Aerospace standard was created to define the aviation, space, and defense process requirements for Advanced Product Quality Planning (APQP) and Production Part Approval Process (PPAP). The APQP process defines a methodology for ensuring that the product development processes deployed throughout the aviation, space, and defense industries are fully integrated phased processes that extend from concept and design through manufacturing process planning and execution, and on into product use, service, and customer feedback. The PPAP is an output of APQP confirming that the production process has demonstrated the potential to produce products that consistently fulfill all requirements at the customer demand rate. This presentation will address how applying PPAP tools appropriately can mitigate risks for both the supplier and customer, thereby increasing profits and enhancing customer satisfaction. A brief overview of Advanced Product Quality Planning (APQP) and its relationship to PPAP will be given along with an overview of the core tools used in PPAP (FMEA, Control Plan, MSA, Process Capability). These core tools are used during the Product and Process Development phases of New Product Introduction (NPI) and during certain events such as failure investigation or engineering changes.

Tuesday September 23, 2025
Save the date

Tuesday October 21, 2025
Joint Meeting with NH chapter of the Society of Manufacturing Engineers
Puritan Restaurant – Back Room – Manchester, N.H.

Tuesday November 18, 2025
Save the date

GRANITE STATE EDUCATIONAL EVENTS

Tuesday May 20, 2025
Structured Problem Solving by Laura Halleck
Puritan Restaurant Manchester, N.H.

This problem solving training course provides a clear and concise introduction to a structured approach for clearly defining problems and identifying and verifying their root cause(s). It provides a step-by-step problem-solving methodology and introduces several quality tools, including Cause & Effect / Fishbone Diagram, Is / Is Not, 5 Why, Pareto chart, Impact Effort Matrix, and Interrelationship Diagram. Participants will learn how to make their future problem solving efforts more valuable and meaningful resulting in prevention of repeated problems.

The learning objectives of this workshop are to help attendees develop skills necessary to:

- Assure that a problem is well defined
- Identify and verify the root causes of the problem
- Explore various possible solutions to a problem and selecting the solution(s) to be implemented

This workshop is designed for managers, engineers, scientists, and other professionals involved in their organizations' problem solving and corrective action efforts, as well as anyone interested in improving their problem-solving skills and corrective action processes.

Tuesday October 21, 2025
Save the date

PINE TREE SECTION

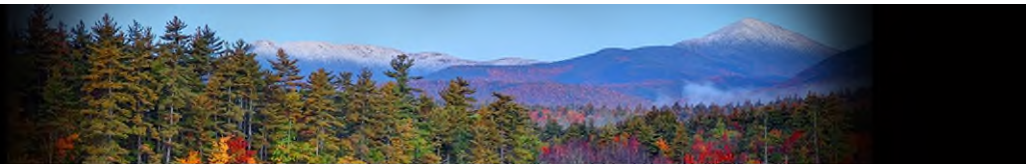
As part of Granite State's cooperation with nearby sections, we would like to hear from anybody associated with the Pine Tree section, events, and opportunities to collaborate. Please contact Dan O'Leary, Section Chair, at doleary@memberleader.asq.org

NEARBY SECTION EVENTS

Merrimack Valley Section
Stay tuned for an April event

North Jersey
Thursday, April 17, 2025
Annual Spring Quality Conference on Zoom
Details to follow

Vermont Section
Friday, March 28, 2025



Lisa DeSmet – Remote Auditing: Challenges Benefits and More!
Register: https://asq.webex.com/weblink/register/rfdc6ddfade2bcc546c6abf4ca2502ee1

Since the COVID pandemic and the expansion of virtual work, remote auditing has become a more common practice for assessing companies and their adherence to regulatory/certification requirements.
Reviewing a company without being physically present in a facility, can provide challenges to conduct and for sharing information but does provide other benefits.
In this upcoming program, Lisa DeSmet will cover:

- What is a remote audit?
- The challenges and benefits to conducting remote audits for both auditors and auditees including examples from her audit experiences.
- How to prepare for a remote audit as an auditor or auditee.
- Things to consider when determining if a remote audit is a good choice in assessing a company – a risk-based approach to supplier qualification example.

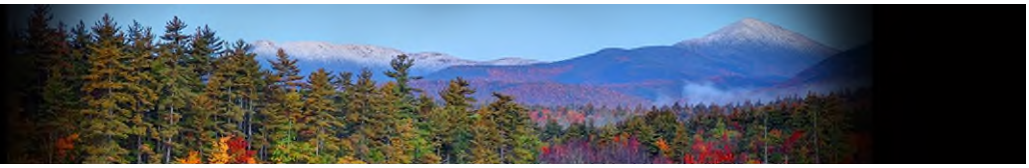
September 15-16, 2025
Vermont Quality Conference
September 15-16, 2025 at the Hotel Champlain
The hotel is on Lake Champlain; it promises to be a beautiful time of year in Vermont
Details to follow

Worcester Section
March 20, 2025 Meeting at 12 PM EST Via Zoom
Topic: The journey to ASQ Fellow, become a professional leader
By David Levy, ASQ Chair Elect
Free Meeting & Certificate with 0.5 RUs
Zoom Link: https://us02web.zoom.us/my/qpsinc
Meeting Id: 7906904984

April 17, 2025 Meeting at 12 PM EST Via Zoom
Topic: Advanced Problem solving to make breakthrough
By Carlos Da Silva, Director
Free Meeting & Certificate with 0.5 RUs
Zoom Link: https://us02web.zoom.us/my/qpsinc
Meeting ID: 7906904984

May 15, 2025 Meeting at 5:30 PM-8 PM
Topic: Panel discussion: Case Studies - Creativity & Innovation
By Raj Kasbekar, VP – Quality & Regulatory
Onsite Meeting at Marlborough, MA

June 19, 2025 Meeting at 5:30-8 PM
Topic: AI Management System & Your role as Quality Professional
By Jay Patel, CEO, Consultant & Trainer



Onsite Meeting at Marlborough, MA, 0.5 RUs

2025 Worcester Section Spring Certification Courses
Every week, 8 weeks from 6:00 PM to 8:30 PM via zoom
Training Course & start dates:
CQT on Tuesday, April 22
CQA on Wednesday, April 23
CQE on Thursday, April 24
CSSGB on Thursday, April 22
By: Certified and experienced ASQ Worcester instructors
Registration is required, send an e-mail to Rob Conner for details: robconnor46@hotmail.com
$350 cost (Student is to purchase classroom books/materials/exam fee)

ASQ ELECTION

The ASQ Nominating Committee previously announced the slate for the 2026 ASQ Chair-Elect, Treasurer, and 2 Directors at Large. The full slate and election rules can be viewed on the Elections page of ASQ.org.

To select the 2026 Board of Directors, ASQ will be conducting a Society Election for Chair-Elect, Treasurer, and 2 Directors at Large beginning on Sunday, March 2, 2025, and ending on Sunday, April 6, 2025.

To conduct this election, ASQ has contracted with a third-party election company to facilitate the balloting in accordance with the ASQ Bylaws.

Members with their email on record with ASQ will receive an email from Simply Voting asking them to cast their vote in the election. Please make sure to add vote@simplyvoting.com to your safe sender list.
Members without an email on record with ASQ will receive a Voter Information Letter in the mail from Simply Voting with instructions to complete the ballot.

ASQ CONFERENCES

Quality Impact Forum: Circular Economy 2025
April 22, 2025, Virtual

World Conference on Quality & Improvement
May 4 - 7, 2025, Denver, CO

Joint Division Conference
July 22 – 24, 2025, Virtual

For more information on these events go to https://asq.org/events

GRANITE STATE CERTIFICATIONS

If you recently received a new ASQ certification, please let us know. The Section would like to congratulate you in the newsletter. Send your name, the new certification, and your prior certifications to Dan O'Leary doleary@memberleader.asq.org.

ASQ CERTIFICATION EXAM SCHEDULE

Certification: CQT, CQI, CRE, CFSQA, CMDA, CMQ/OE, CSSBB, CSSYB, CSQP
Application Deadline: April 14, 2025 Testing Window: May 1 - 31, 2025

Certification: CQA, CQE, CQIA, CSQE, CSSGB, CQPA, CCT, CPGP, CCQM
Application Deadline: May 12, 2025 Testing Window: June 1 – 30, 2025

Download the *ASQE Candidate Handbook and Application Process* from
https://p.widencdn.net/j5hi1o/Certification-Candidate-Handbook

THE MARCH 2025 SLT MEETING

Granite State members are welcome to participate in SLT meetings and to join the SLT. Contact Dan O'Leary doleary@memberleader.asq.org.
The Granite State SLT met on Mar 11, 2025.

- The section's account balance is $16,994.98
- We have the speakers lined up for the spring membership meetings as described
- We are planning a joint meeting with the NH Society of Manufacturing Engineers in October
- The one-day workshop on Structured Problem Solving scheduled for May 20, 2025 is coming together
- The membership increased to 204 members

THE 2025 SLT

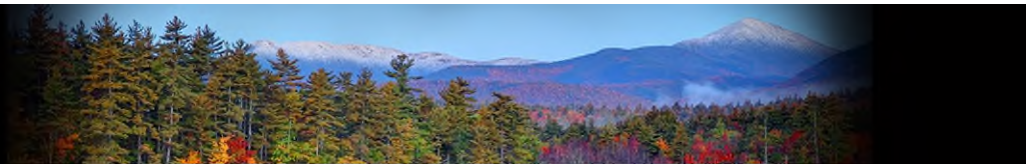
Bharat Arora: Nominating
Chris Carr: Newsletter, Membership
Charlie Killam: Treasurer
Sarah Matloff: Secretary
Dan O'Leary: Chair, Arrangements, Education, Program

CALL FOR SLT MEMBERS

Granite State has an **immediate** need for a person to manage the fall program. This involves finding speakers for the fall membership meetings, setting up the educational event, arranging for the venue, and setting up the registration. If you are interested in this interesting SLT role, please contact the Chair by e-mail at doleary@memberleader.asq.org. Volunteers can earn recertification units, RUs, for this role.

SECTION METRICS

The Section metrics help measure success against the plans for the 2025 program year. The results are in a Red/Yellow/Green format scorecard.



Membership Change – The number of members for 2024 and 2025. Calculate the slope of the linear regression line. The target is a slope greater than zero and the improvement direction is up.

Account Balance – The balance in the Granite State account. Calculate the slope of the linear regression line. The target is a slope greater than zero and the improvement direction is up.

Meetings Held – The ratio of the number of membership meetings held YTD to the number planned YTD expressed as a percentage. The target is 100% and the improvement direction is up.

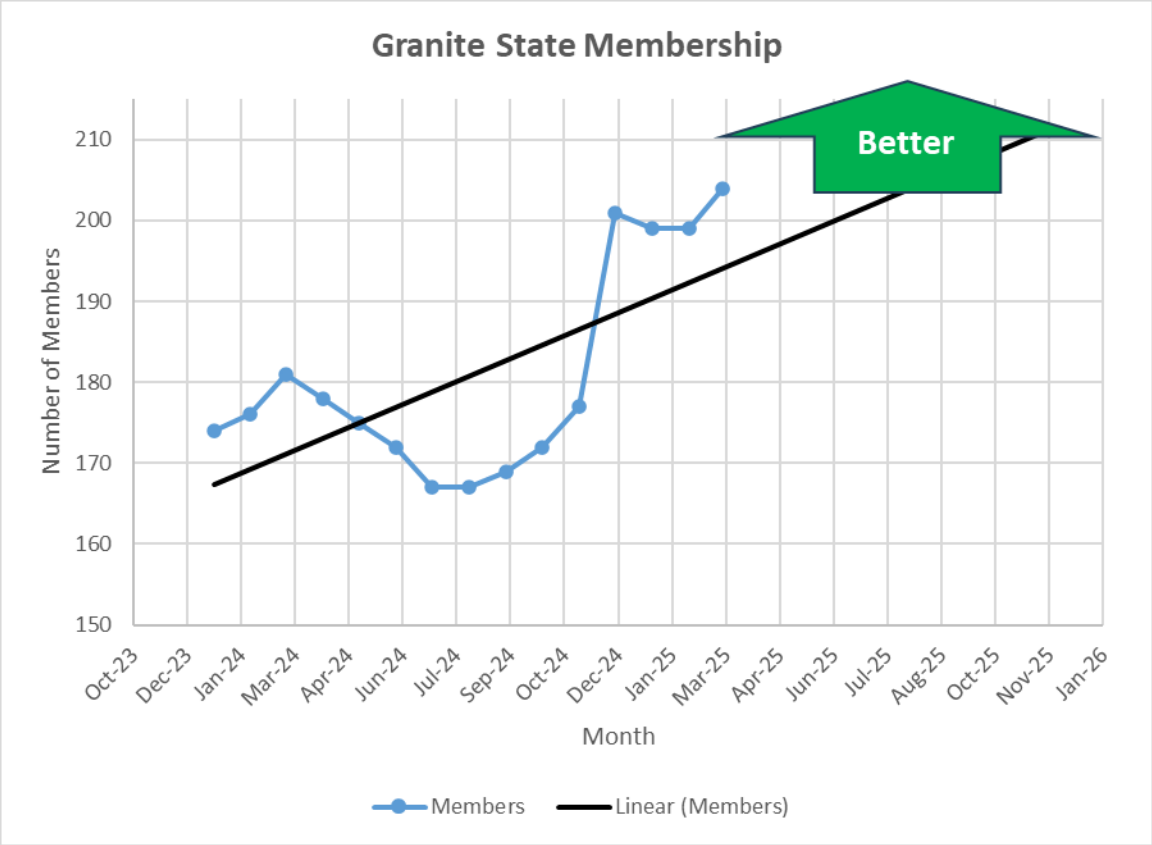
Educational Events – The ratio of the number of educational events held YTD to the number planned YTD expressed as a percentage. The target is 100% and the improvement direction is up.

Newsletters Published – The ratio of the number of newsletters published YTD to the number planned YTD expressed as a percentage. The target is 100% and the improvement direction is up.

Member Surveys Conducted – The ratio of the number of member surveys conducted YTD to the number planned YTD expressed as a percentage. The target is 100% and the improvement direction is up.

The scorecard cells are white until the first scheduled activity.

Metric	Target	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Membership Change	Regression Slope ≥ 0	0.04	0.05	0.06									
Account Balance	Regression Slope ≥ 0	-3.30	-1.31	-0.46									
Meetings Held	Percentage ≥ 100%												
Educational Events Held	Percentage ≥ 100%												
Newsletters Published	Percentage ≥ 100%		100%	100%									
Member Surveys Conducted	Percentage ≥ 100%												



SECTION DEMOGRAPHICS

For March 2025, the section has 204 members with a wide geographical distribution and varied member types.

State	Count	Percent
NH	175	85.8%
MA	18	8.8%
VT	3	1.5%
ME	2	1.0%
WI	2	1.0%
AZ	1	0.5%
FL	1	0.5%
PA	1	0.5%
VA	1	0.5%
CT	0	0.0%
Total	204	100.0%

Member Type	Count	Percent
Professional Membership	159	78%
Senior Membership	33	16%
Retired Senior Membership	10	5%
Student Membership	1	0%
Retired Professional Membership	1	0%
Total	204	100%

CALL FOR SPEAKERS

The section needs speakers who can make a presentation at an upcoming membership meeting. The presentations are about one hour following dinner. The topic should provide information about skills or knowledge useful in a quality professional's work. Contact doleary@memberleader.asq.org.

CALL FOR AUTHORS

Granite State members are invited to write a Professional Development article for our newsletter. Submit your draft article to doleary@memberleader.asq.org.

In addition to recognition by other section members, writing an article can refine your skills and may support your ASQ certification. Become a recognized subject matter expert and showcase your knowledge.

CALL FOR COURSES

The section would like to hold at least one educational event in the fall of 2025. The events are one day in-person activities. If you have expertise or skills that can provide knowledge or professional development to our members please contact doleary@memberleader.asq.org.

PROFESSIONAL DEVELOPMENT

Descriptive Statistics – Graphical Methods

Dan O'Leary CMDA, CQA, CQE, CRE, CSSBB

CQE BoK:
VI. Quantitative Methods and Tools
A. Collecting and Summarizing Data
6. Descriptive statistics
Describe, calculate, and interpret measures of central tendency and dispersion …

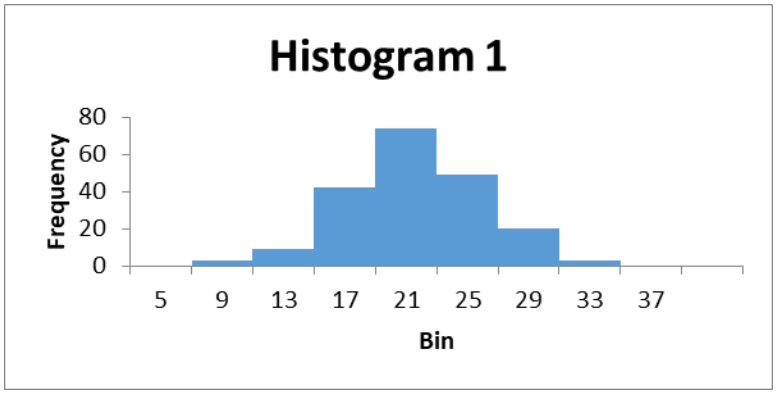
CSSBB BoK:
V. Measure
D. Basic Statistics
3. Descriptive statistics
Calculate and interpret measures of dispersion and central tendency.

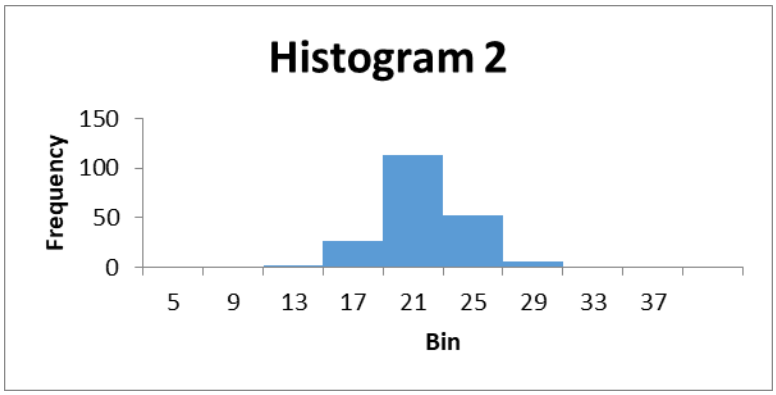
The February 2025 newsletter described descriptive statistics using calculations of the values. Graphical methods are also useful to help communicate the information.

Histogram

A histogram displays the frequency of observations from a data set. The observations are usually divided into equal size bins with the histogram showing the number of observations in each bin. The histogram provides a graphical representation of the center, dispersion, and shape of the data.

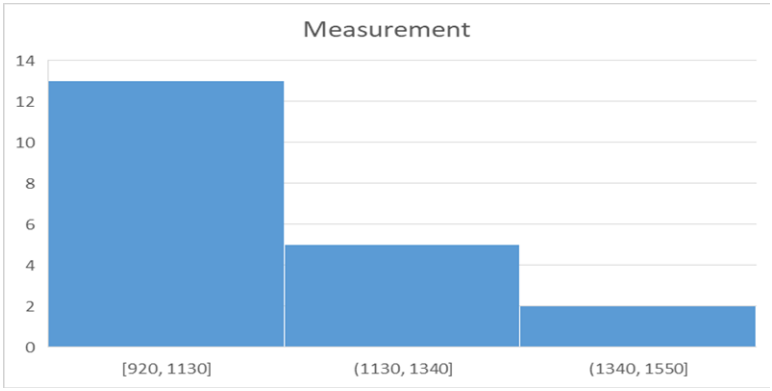
Consider the two histograms below. Histogram 1 is 200 simulated data points from a normal distribution with mean of 20 and standard deviation of 5. Histogram 2 is 200 simulated data points from a normal distribution with mean of 20 and standard deviation of 3. The histograms show the same shape, the same center, but different dispersion (standard deviations).



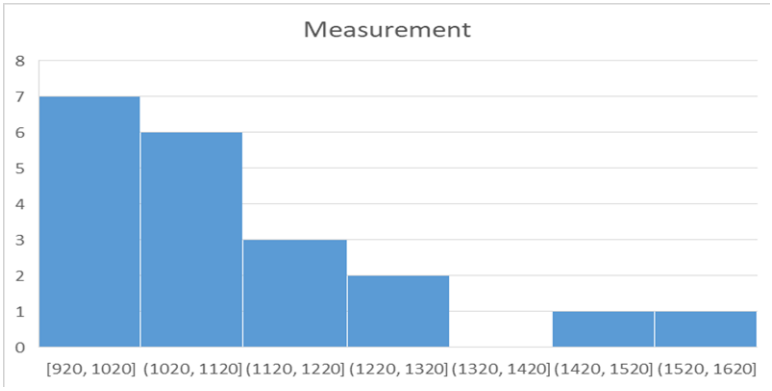


To illustrate constructing a histogram in Excel, use the following dataset: {990, 1150, 1080, 1100, 1280, 990, 1110, 920, 1000, 1200, 1000, 1000, 1150, 1070, 1120, 1250, 1020, 1060, 1550, 1480, 1010}

Enter the data in a column (or row) with the label Measurement. Select it. In the ribbon select Insert and then from All Charts select Histogram. Excel will insert a histogram in the worksheet as shown below.



Excel selects the bin width and therefore the number of bins. In this case, Excel set the bin width to 210 resulting in 3 bins. To change the choice, double click the x-axis to see the options which include Bin width and Number of bins. In the histogram below, the Bin width is set to 100.

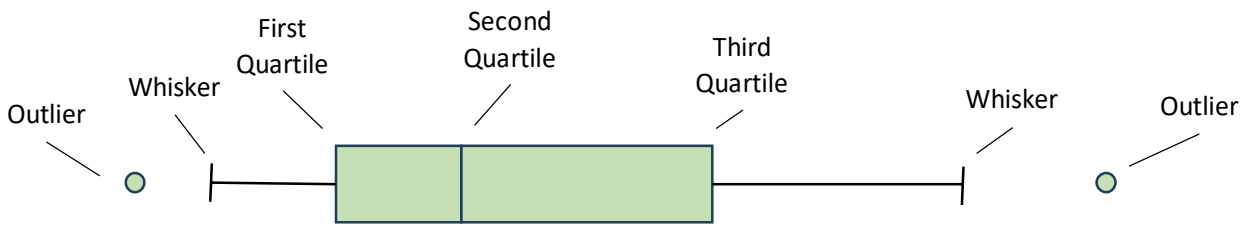


Notice that the histogram shows a skewed distribution. The mean is 1126.5, the median is 1090.0, and the standard deviation is 161.8.

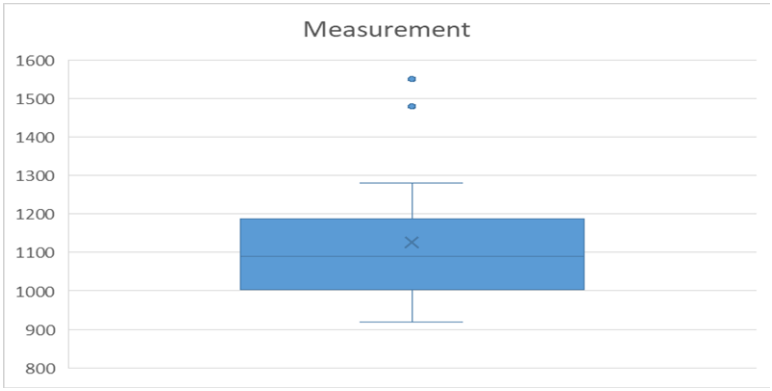
Box & Whisker Plot

The box & whisker plot is useful to show a skewed distribution and is particularly useful to compare different distributions. For example, side-by-side box & whisker plots might show a critical to quality, CTQ, characteristic from three machines producing the same part number. It is also useful to show how distributions change over time, such as the time from initiation to implementation for corrective actions shown as side-by-side box & whisker plots.

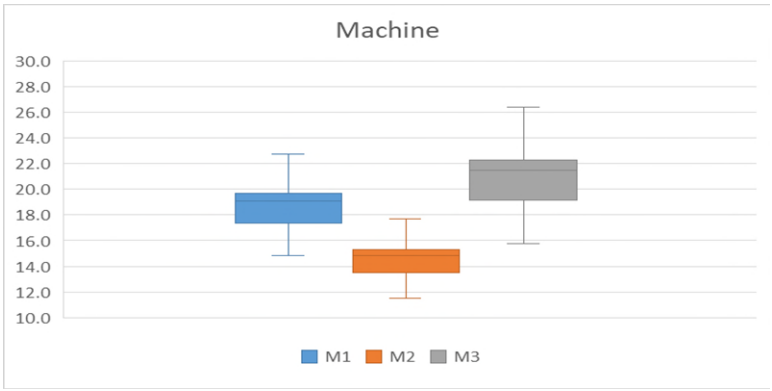
The figure below shows the anatomy of a box & whisker plot.



The figure below is the box & whisker plot for the data shown above in the histogram.



The box & whisker plot below compares the output, using sample data, from three machines making the same part number.



In addition to the box & whisker plot, present the calculated values for the mean, the median, and the interquartile range.

Sparklines

Edward Tufte, well known for wonderful guidance on presenting information, developed sparklines as a tiny chart to integrate in a table of data to help understanding.

Consider the table below showing first pass yield for five production lines over four quarters in 2024. While all the data is in the chart, it is hard to understand without a graph. Sparklines allow you to embed simple graphs into the chart.

First Pass Yield						
Line	Q1	Q2	Q3	Q4	Mean	Std Dev
Mabel	87.0%	88.0%	90.0%	90.0%	88.8%	1.5%
Empire	75.0%	75.0%	79.0%	80.0%	77.3%	2.6%
Dragon	60.0%	58.0%	52.0%	55.0%	56.3%	3.5%
Ulysses	93.0%	94.0%	95.0%	96.0%	94.5%	1.3%
Eclipse	50.0%	50.0%	55.0%	56.0%	52.8%	3.2%

In the table, inset two new columns to the right of the Line. There are two kinds of sparklines that we will use. One produces a line chart and one produces a column chart.

In the first new column select Insert > Sparklines > Line. Copy it down to the other rows. In the second new column select Insert > Sparklines > Column. Copy it down to the other rows. The result is the table below, which shows how the first pass yield changed over time for each of the product lines.

First Pass Yield								
Line	Sparklines		Q1	Q2	Q3	Q4	Mean	Std Dev
Mabel			87.0%	88.0%	90.0%	90.0%	88.8%	1.5%
Empire			75.0%	75.0%	79.0%	80.0%	77.3%	2.6%
Dragon			60.0%	58.0%	52.0%	55.0%	56.3%	3.5%
Ulysses			93.0%	94.0%	95.0%	96.0%	94.5%	1.3%
Eclipse			50.0%	50.0%	55.0%	56.0%	52.8%	3.2%

Conclusion

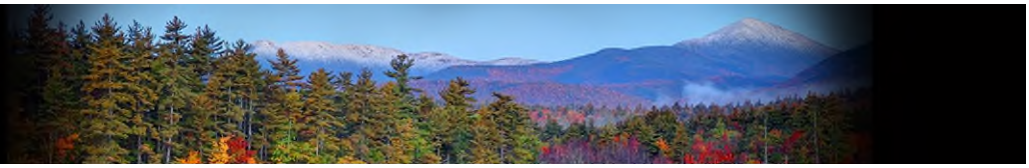
The February newsletter discussed measures of central tendency and variation using calculated values. This newsletter includes some graphical techniques that work well with the calculated methods. Use them together to help analyze information and present results.

QUALITY QUESTION

This area of the newsletter responds to quality questions from Granite State members. The question could be about best practices, implementing a method, using a statistical technique, *etc*. Submit your quality question to Dan O'Leary, doleary@memberleader.asq.org.

Question: We recently sent some test equipment out for calibration and reviewed the certificates that came back. There was a section on uncertainty. Can you provide a simple explanation of what it means?

Response: Measurement involves using an item of Inspection, Measuring, and Test Equipment, IM&TE, to determine the value of some quantity such as voltage, length, or temperature. The user reads a value from the



instrument and writes it on the data sheet as one number. However, there may be a difference, hopefully small, between actual value measured and the reading on the instrument. This is uncertainty.

When the instrument was calibrated by an outside calibration laboratory certified to ISO/IEC 17025:2017, the instrument's calibration certificate will state an uncertainty value. The calibration laboratory's equipment will have been calibrated using another piece of equipment which will have been calibrated … There is an unbroken chain of calibrations traceable, in the US, to the National Institute of Standards and Technology, NIST. Each of these calibrations has its own uncertainty which is passed down the chain.

Measurement processes use a standard *Guide to the Expression of Uncertainty in Measurement*, called GUM and a dictionary *International Vocabulary of Metrology,* called VIM. Metrology laboratories use these standards as part of their methods. Rather than the somewhat technical explanations in GUM and VIM this answer provides the concepts.

Think of measurement uncertainty as quantifying the doubt about a measurement result. At each step in the calibration process there is uncertainty. If you take a set of repeated measurements you will get individual values which will not all be the same. From these values you can calculate the arithmetic mean and the standard deviation. In this case, the standard deviation is called the *standard uncertainty*.

Each step in the calibration process has its own standard uncertainty which are combined along the calibration chain to produce the *combined standard uncertainty*. (Take care when combining them, since they don't add directly. Similar to standard deviations, convert them to variances, add, and then convert back to deviations.)

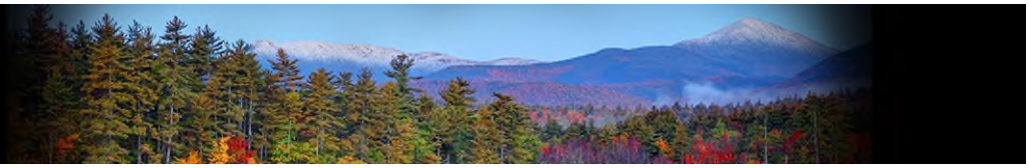
The calibration certificate will report either the combined standard uncertainty or the *expanded uncertainty* and must state which value it reports. In many cases, the user needs a confidence interval around the measurement. The assumption is that the combined standard uncertainty is from a normal distribution. One standard uncertainty (deviation) covers 50% of the area under the curve. When reporting the expanded uncertainty, the calibration certificate states a *k* value for the coverage.

The combined standard uncertainty multiplied by a coverage factor, *k*, gives the expanded uncertainty, U. The value of U gives the confidence interval, the percentage of measurement results expected to fall within the confidence level. See the table below.

Coverage factor	1.0	1.645	1.960	2.00	2.526	3.0
Confidence level	68.27	90	95	95.5	99	99.73

As an example, consider a calibration certificate for a Type K digital thermometer. The calibration doesn't actually use temperature, but applies a signal from a simulator that represents the temperature and checks the instrument's reading. Here are two lines from the calibration certificate; the measurements are in degrees Celsius.

Applied	Lower Limit	Upper Limit	Result	Uncertainty
100	98.8	102.2	100	0.11
200	198.8	202.2	199	0.15



From the table we don't know whether Uncertainty means combined standard uncertainty or expanded uncertainty. The notes on the certificate say, "reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2".

We know that when taking a reading at 100° C, 95.5% of the results will be within 100.0 ±0.11° C. For a reading at 200° C, 95.5% of the results will be within 200.0 ±0.15° C. Notice that there is also an offset of 1° C at this temperature.

In most cases, you will not use the uncertainty value. However if you need to analyze a measurement, then you will create an uncertainty budget, calculate the combined standard uncertainty, and use it for the budget.