



Serving 17 counties and 4 cities

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FROM THE DIRECTOR



Nelson Teed

The MTC's Fiscal Year 2017 ends on June 30th, 2017 and there is much to talk about.

I'm pleased to say that the MTC met or exceeded all goals for projects completed and business impacts produced for our clients. We accomplished this while at the same time remaining financially viable through revenue generation and strict cost control.

Our new initiative partnering with the American Society for Quality, the Community Colleges, and the Workforce Investment Board to offer subsidized Six Sigma Green Belt training leading to ASQ Certification has been extremely successful. Over 100 students completed the training in FY17! Thanks to everyone for making this such a huge success!

With the help of our partner, GENEDGE Alliance, the MTC has greatly expanded its top-line oriented Growth & Innovation offerings which is a much-needed addition to our traditional bottom-line oriented offerings.

Our Environmental and Energy programs continue to be a huge benefit to our community while successfully fulfilling all EPA and USDA grant requirements.

Staff development has continued. Shawn Wildman achieved his Certified Energy Manager (CEM) credential while three MTC Staff members successfully completed the Core Consulting Skills Certification Course and exam offered by NIST.

As always, thank you to all our partners, clients, board members, and all others who make the MTC's success possible!

Nelson J. Teed



July 2017

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Upcoming Events

Event	Location	Date
ASQ exam Prep	VHCC	7/26/17
E3 Peer to Peer Event	VHCC	8/23/17
LSSGB Overview/Funding	NRCC	8/23/17
LSSGB Overview/Funding	VHCC	8/30/17
LSSGB 12 WK Course	VHCC	9/13/17 thru 12/6/17
LSSGB 12 WK Course	NRCC	9/14/17 thru 12/7/17
LSSYB 6- WK Course	NRCC	10/10/17 thru 11/14/2017



Linda Newman

Summer is here! Don't you just love the fresh fruit and vegetables, the warm nights, sound of birds singing, and little creatures running here and there having a big time? Warm weather has arrived for swimming, playing golf, picnics, days at the lake, fireworks, going to the beach, just to name a few fun things to do. Stepping out of your house, making the decision to do any or all of these things—is your choice—your **FREEDOM** as an American to choose. Isn't it wonderful to live in a country where we



can do these things and raise a family enjoying the many privileges? During the summer, take time to reflect on your childhood, your freedoms, your hope for the future, and most of all—never take a minute for granted. Have a wonderful summer!



LEAN SIX SIGMA GREEN BELT WITH PROJECT COMPLETION

The MTC held several 12-week Lean Six Sigma Green Belt with Project Completion courses in the Fall of 2016. Courses for Spring 2017 are on-going. There are grants available that will assist in the training costs. An ASQ Exam is included in the cost for every student who wants to take it. Nelson Teed and Shawn Wildman meet with students and conduct a ASQ exam prep class before each exam. For more information on how you or your employee(s) can enroll, please contact your local community college Workforce Development Department or the MTC for information. There will be LSSGB informational sessions held in the month of August and September. Information on dates and locations are also posted on MTC's website.



12-WEEK **ASQ** LEAN SIX SIGMA GREEN & YELLOW BELT CERTIFICATION AND PROJECT SUPPORT COURSES With ASQ EXAM

Training Objectives Present the **ASQ** Lean Six Sigma Body of Knowledge

Demonstrate the use of Six Sigma tools through a simulation project

Follow the D-M-A-I-C project methodology

Have each Green Belt student complete a job related project with measurable impact

Follow a train-and-do approach

Receive Community College Continuing Education Units (CEU's)

Obtain prestigious, internationally recognized certification from the **American Society for Quality** upon successful completion of **ASQ exam**. Cost of test and test prep included in cost of the class.

Training Topics

Intro to Lean Six Sigma

Project Selection

Process Mapping

MSA

Pareto Analysis

Gage R&R

Variation

Principles of Lean Manufacturing

Elimination of Waste

DMAIC Process

Cause & Effect Diagrams

Y=f(x)

Fault Tree Analysis

Project Document

Process Capability

Statistical Process Control

Value Stream Mapping

Kanban

SS

The Manufacturing Technology Center is proud to offer **12-week Green Belt and 6-week Yellow Belt courses of ASQ Lean Six Sigma Training and Project Support**. The courses present the **ASQ Lean Six Sigma** body of knowledge in a simulation workshop application oriented manner using a project simulation that takes the participants through the **D-M-A-I-C process improvement methodology**. The course format was developed around a **Train-and-Do** approach. Classroom activities will include a combination of lecture and simulation exercises.

Each Green Belt participant will be **required to have a job related and sponsor approved project** which should be selected prior to the start of the class. The course agenda is intended to lead participants through completion of their individual project. **MTC instructors will provide weekly, on-site support** to mentor and coach participants through the completion of these company specific projects. Included with the Green Belt course is a copy of the book **CSSGB Primer**, and statistical software, QI Macros.

*Projects have a **95% completion rate** and have produced **1st year annualized savings of \$25,000 to \$450,000!***

Yellow Belt students are not required to complete a project.

Both course fees include the cost of the ASQ certification exam and exam prep!

General Course Information

A **12-week Lean Six Sigma Green Belt** course and a **6-week Lean Six Sigma Yellow Belt** course is scheduled to begin in the fall.

Classes dedicated to one employer can start at any time and can be conducted on site (minimum of 4 students). Location of public classes will be determined by location of the majority of students. The date of the course to begin is contingent upon registration.

PLEASE NOTE: THERE MAY BE FUNDING AVAILABLE TO DEFRAY ALL OR PART OF THE COURSE FEE. PLEASE CALL THE MTC TO OBTAIN MORE INFORMATION ON FEES AND FUNDING.

Please contact Linda Newman at (276) 223-4709 or lnewman@wcc.vccs.edu.

Engineering Corner

The Simplest Answer is Often the Best



Shawn Wildman

During the summer everyone is trying to either get ahead or catch up from being out of the office for a week of vacation. So this article will be a short and sweet tip for you to remember when you're trying to wrap up that project before the year's end.

A friend called the other day asking about a new Design for a Six Sigma book he had heard about from a colleague. I wasn't familiar with the book but that didn't stop me from asking what he wanted to achieve from reading the book. He mentioned that he wanted to shorten the product development cycle time within his department; I asked if he had performed a Transactional Value Stream Map on the process. His reply was simply "No I hadn't thought of that, but that's a good idea". I recommended that he start with the VSM and if it didn't produce the results he wanted—then try and find the book and learn about a new DFSS concept. After the phone call I was kind of surprised that he hadn't thought of the VSM first. He is a certified Black Belt and we have worked on VSM's together in the past. Then I realized—the simplest answer isn't always the first answer we think of to solve what seems like a complex problem.

When working on any problem, always defer to the foundation of the "**House of Lean**"—*Standard Work, 5S and a Visual Work Place*. Work your way through the rest of the tools in the **House of Lean** until you find the tool that will provide the answer you need. If the problem is very complex and data isn't easily available, then defer to a Six Sigma project. There is one more thing. *Value Stream Mapping* (VSM) is where you should always start your Lean Six Sigma journey. A good VSM will always provide you with the direction you need to resolve your issues.

Shawn Wildman



ENVIRONMENTAL AND ENERGY CORNER



Keith Litz

The Manufacturing Technology Center was asked to present details on our E3 activities and to participate on a six-person panel in Washington DC last Fall. The event had over 200 attendees. During lunch, after the event, we were asked to apply for a chance to present at the NIST/MEP National Conference in Denver. MTC submitted a 300-word abstract detailing the implementation successes of our E3 program. The presentation was accepted and we were on our way to Denver on Sunday April 30th.

I presented with an E3 practitioner from Missouri to a sustainability session of the National Conference. My theme was as follows:

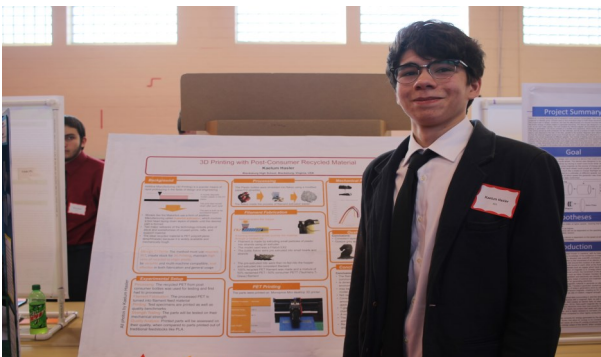
We surveyed the majority of our 57 E3 assessed sites. These sites received \$12MM of recommendations and their responses indicated they implemented 49% or almost \$6MM of savings. This included 25MM gallons of water conserved, 224,000 pounds of hazardous waste reduced and 2MM kWh saved.

We returned on Wednesday after attending fantastic sessions from other MEP Centers. Oh, by the way, Denver and the Rockies are beautiful. It was the first time for me and won't be the last!

Keith & Jeff



Kaelum Rob Rodriguez Haser wins the Manufacturing Technology Center's Excellence in Manufacturing Award



On behalf of the Manufacturing Technology Center and Board, we congratulate Kaelum Rob Rodriguez Hasler, a student at Blacksburg High School, on receiving the Manufacturing Technology Center's Excellence in Manufacturing award! Kaelum presented "*Post Consumer PET as Stock for Additive Manufacturing.*" Kaelum also won a second place NASA award of \$750 at ISEF.

This is the 21st year the MTC has supported the Blue Ridge Highlands Regional Science Fair.

Congratulations, Kaelum! We wish you much success in all your future endeavors. You are on a great path.