

**NEW Manufacturing Alliance
INDUSTRY 4.0 TASK FORCE – WEBEX MEETING MINUTES
Thursday, September 17, 2020 – 1:30 to 2:30 PM**

ATTENDEES: Amy Kox-NWTC, Ann Franz-NEWMA, Barb LaMue-New North, Bruce Wisnefske-Sargento, Carly Kroll-New Resources Consulting, Dan Fuhrmann-Michigan Tech, Dan Heiser-St. Norbert College, Debbie Thompson-NWTC, Gerry Aase-SNC, Greg VandenLangenberg-Amcor, James Corpus-Pierce Manufacturing, Jill Thiede-NWTC, Joe Brittnacher-Ariens Co., Josh Delforge-Marquis Yachts, Josh Krueger-Wells Fargo, Mark Kralovec-PCMC, Paul Link-Alliance LS, Rick Roeske-PCMC, Rob Weklar-Voith, Scott Herron-New Resources Consulting, Steve Meyer-FVTC, Steve Straub-FVTC, Tim Duley-Alliance LS, Tony Olson-Excelion Partners, Ulrich Unterricker-Optima Machinery Corp.

WELCOME – UPDATES: PAINT COHORT & DATA ANALYTICS TRAINING

The **Paint Cohort** continues to move forward and is meeting next Monday to finalize their paint/climate controls data analytics project. Members are encouraged to contact Ann if they would like to join this cohort.

20 people, representing 13 companies, are participating in the **Data Analytics** training. An overview of data analytics, via a cohort model, will be provided. Attendees will also have the opportunity to learn from each other.

A request was made to record the Industry 4.0 meetings, making the link available for up to two weeks after the event. Ann will check with the speakers to confirm they are willing to have their content recorded for post-meeting viewing. Approved presentation links will be added to the NEWMA website, on the Industry 4.0 web page.

IMPROVING TECHNOLOGY ACCEPTANCE & ADOPTION – NEW RESOURCES CONSULTING

For more information, contact:

Carly Kroll – Ckroll@newresources.com and Scott Herron – Sherron@newresources.com (920) 585-6302
New Resources Consulting is an IT consulting company based in Wisconsin.

Improving Technology Acceptance & Adoption

A more in-depth version of today’s presentation is available for New Resources Consulting clients.

Resistance to change is difficult for anyone, and it is especially challenging when it affects the way we do work. While leadership may invest in a great new tool to help their industrial workers and company be successful, workers may not view that tool in a positive light. Learn the reasons behind the inertia and discover tips for overcoming those challenges.

Causes of Resistance to New Tools

- Masculinity & Tools – It can be perceived as masculine to do things the way they have always been done, even if the method requires more effort.
- Age – Millennials are also not always accepting of change.
- Influencers – Someone who employees admire can more easily change perceptions.
- Fear of Failure
- Visual Preferences – Employees have different learning styles.
- Previous Experience with Technology

TECHNOLOGY ACCEPTANCE MODEL (TAM)	
<p>Perceived Usefulness</p> <ul style="list-style-type: none"> • Will it help me in my job? • Will it make my job easier? • Will I be more efficient and productive? • Will I be safer in my work? 	<p>Perceived Ease of Use</p> <ul style="list-style-type: none"> • Will this be difficult to learn? • Is it simple to use and work on? • Is it user friendly? • How much training do I need?

Communication Accommodation is changing the way you speak and behave to appropriately match the receiver. Use the language style of your workers. Don't use acronyms or phrases they may not be familiar with.

SIX TIPS

1. **Inform** employees via email, meeting, townhall, newsletter, etc. Share information about the technology or tool.
2. **Simplify**
 - Reduce jargon.
 - Don't use acronyms.
 - Talk to the audience on their level.
 - Minimize where needed.
3. **Visualize** - Simplify by utilizing; flyers, infographics, posters, animations, videos, etc.
4. **Influence** – Enlist the help of a respected employee(s) to promote use of a new tool or technology, especially any groups with decision making power.
5. **Demonstrate** using hands-on demos, workshops, Thinktank, etc.
6. **Encourage** using verbal affirmations and/or public recognition. This will instill confidence.

INDUSTRY 4.0 EDUCATION, A SNAPSHOT 4K-12

For more information, contact:

Steve Meyer, Manager of STEM Education, Fox Valley Technical College - meyerst@fvtc.edu, 920-205-0872

Agenda:

- Industry 4.0 education by grade levels
- Challenges and opportunities
- Future trends in Industry 4.0 education
- How we can **collectively** move the needle

'Make sure all young people have the knowledge, skills and passion to solve the world's problems that do not exist yet.'
It is up to educators, parents, everyone to make this happen. We have to be futurists.

Elementary: 4K – 5th Grade

- Coding exercises (i.e. Code.org, Scratch Junior)
- Programming of devices (Lego, WeDo, Sphero, Ozobots)

Much of Industry 4.0 is play and game based for elementary students. Current 5th graders will likely start their first career in their mid-twenties, year 2035.

Middle Level: 6th – 8th Grades

- Coding exercises (flowchart based, beginning some computer code)
- Building and programming of kits (LEGO Mindstorm, Vex Robotics)

Students are ages 11 to 14 years. Much of what they are doing is kit based.

High School: 9th – 12th Grades

- Coding exercises (computer programming, ladder logic)
- Robotics kits (Vex Robotics) - A lot of high schools are using a kit based approach in 9th and 10th grades.
- Advanced robotics design (First Robotics Competition)
- Some industrial robotics
- Articulation with Technical Colleges through dual credit offerings

Challenges & Opportunities	
<ul style="list-style-type: none"> • Coding with no connection to the outside world – lack of branding • Sustainability – kit/part replacement • Cost • Instructor knowledge base • Radio controlled, not true autonomy • Difficult software, software workarounds • Accessibility – school & student • Age appropriateness • Emphasis on latest skill instead of “ways of thinking” • Only design of programming instead of troubleshooting • Lack of use & analysis of data to drive design 	<ul style="list-style-type: none"> • Too much freelance “unstructured playtime” • Emphasis on “rover” build – At least 80% of robotics • Emphasis on building of mechanical system • Understanding the importance of “transfer of knowledge” • Lack of replication of the world outside of school • Lack of branding local companies that need Industry 4.0 “ways of thinking” • Diversity of students – missing a lot of students • Consistency between schools – culture of collaboration • Professional development – educate teachers & industry

Steve shared an example of a FVTC student created, robotic milking simulator. Built on a pizza box, the simulator cost \$15 to construct, including \$14 of reusable materials. This example emphasizes the possibilities of giving students the challenge of designing something at a low cost, while encouraging critical thinking. Steve would like to meet with industry leaders to continue to promote this concept.

FVTC is very interested in attracting more students into post-secondary education. Ann shared that the Alliance has resources to offset some of the costs for two or three piloted partnerships. **Through collaboration amongst NEWMA, industry, school districts, technical colleges and universities, we can drive automation and Industry 4.0 in northeast Wisconsin! Members are encouraged to contact Steve and/or Ann if they would like to move forward on this initiative.**

NEW ERA GRANT OPPORTUNITY

In an effort to get people skilled faster for Industry 4.0 professions, NEWMA is partnering with Wisconsin 2 and 4-year public colleges. Ann is working with the colleges on a grant application that is due in October.

UPCOMING ALLIANCE EVENTS

- October 1 – Excellence in Mfg. / K-12 Partnerships Awards – Stone Prairie – Brillion, WI
- October 14 – Get Real Math / Science Video Virtual Meeting for MS / HS Math & Science Teachers
- October 20 to 22 – **Manufacturing First Expo & Conference** – *Dues paying members need to register by September 30 to receive a free booth and four free admission tickets (\$725 value).* Webinars focused on Industry 4.0 at event:
 - 10/20 - Four IOT Tech trends that will impact small and mid-sized manufacturers
 - 10/20 - Industry 4.0, How to get started
 - 10/22 – Cybersecurity, Challenges unique to the manufacturing industry
- October 23 – Virtual Career Exploration for High School Students – 10 AM to Noon
- October Wednesdays & Fridays will feature school career speakers (virtual).
- November 10 – Internship Draft Day – Virtual Interviews with Live Programming from Lambeau Field

NEXT MEETING DATE/TIME/MODALITY/AGENDA

The next Industry 4.0 WebEx meeting is on Thursday, November 19, 2020, 1:30 to 3:00 p.m. Members are encouraged to contact Ann if they would like to share a case study at the meeting. Agenda:

- ✓ Welcome & Updates
- ✓ RECAP Recent Events
- ✓ NEW ERA Grant
- ✓ Next Meeting Date/Time/Location/Agenda