

NEW Manufacturing Alliance
INDUSTRY 4.0 TASK FORCE – MICROSOFT TEAMS MEETING MINUTES
November 10, 2022 – 1:30 PM

ATTENDEES: Adetayo Adegoke-Microsoft, Ann Franz-NEWMA, Bill LaLuzerne-AK Pizza Crust, Craig Mickelson-CMD Corporation, Debbie Thompson-NWTC, Gregorio Balandran-Amcor, Jill Thiede-NWTC, Matt Kanitz-M3 Insurance, Mike Sandry-Rockwell Automation, Nick Rolf-Guardian Business Solutions, Phil Andreoli-Microsoft, Ryan Lindeman-Crescent Electric Supply Co., Scott Valitchka-15 Dots, Steve Meyer-FVTC, Uli Unterriker-Optima Machinery Corp.

WELCOME & INTRO – ANN FRANZ

The Industry 4.0 Task Force needs a new chairperson, as Brian Schauf accepted a position outside the region. The chairperson must represent a manufacturing company. Members are encouraged to contact Ann if interested.

PROJECT MANAGEMENT / DATA ANALYTICS COURSES & FUTURE TRAININGS – ANN FRANZ

The 4th cohort of project management training has begun with 103 participants. Almost 400 members have participated in this training that will be offered again in 2023.

The 6th cohort of data analytics training has launched, with 55 people enrolled, representing 25 member companies. 300+ people have participated in this training that will be offered again in 2023.

For 2023, NEWMA was awarded a Microsoft grant for digital literacy training and cybersecurity awareness. Ann is working with some member companies to set-up this training.

Grant Opportunity - Ann was contacted by a nonprofit organization that receives federal tax dollars. **Ideadvance - Center for Technology Commercialization** invites Statewide innovation. They would like NEWMA companies to present 2-3 common technology challenges / problems their innovators can work to solve. Challenges must be common for multiple companies, even if solutions look different amongst the companies. These solutions may be potential startups from academia; existing startups; established businesses with new product ideas; or even a partnership among your coalition of 4.0 innovators to pursue 4.0 technology integration. Selected solutions in an Ideadvance Challenge should be treated as experimental pilots, not ready-to-go products. These pilots will be positioned for follow-on funding so solutions move up the technology readiness levels required for enterprise scale.

There is a \$25,000 grant toward supporting the initial challenge and initial solution. There are additional grant dollars available to help reach a final solution. Since the meeting, Ann sent members information to help them decide if they would like to participate.

MICROSOFT INNOVATION LAB – PHIL ANDREOLI & ADETAYO ADEGOKE

Located in downtown Chicago, the Microsoft Technology Center (MTC) is future focused and helps guide users on their digital transformation journey. People, processes, and partners are united in one place to deliver immersive services, technical knowledge, and industry expertise – saving time and money. MTC's offer immersive industry storytelling, via their premier platform of Envisioning Theaters. Technical Architects showcase the art of the possible and make it real for customers. Many industry sectors, with hands-on experiences, are featured.

In an effort to empower digital transformation, MTC is the Innovation Hub on the Microsoft Cloud. Via cross-solution industry tailored engagements, there is a huge global network of 44 Innovation Hubs in 28 countries. Their approach is to strategically align from inspiration to action. By exploring the customer problem and needs in detail, they create and present solutions and business cases. The journey flows from less technical to more technical, with various stages of transformation. The results are tangible assets. They can create solutions to match customers' needs. Using a consultative approach, they accelerate technical decisions and build trust anchored in business evidence and impact. MTC's can help others see the value through hands-on immersion, proving technical complexity with prototyping. They can enable immersive engagement remotely and in a hybrid model but prefer in-person.

NEWMA is planning to organize a spring 2023 group tour of their downtown Chicago facility. A two hour time block for the tour was recommended. More to come.

AMCOR – ADVANCED MANUFACTURING SIMULATION CASE STUDY - GREGORIO BALANDRAN

Gregorio shared that ‘It’s *not* about automation but about transformation.’ Technology, people, and process are needed to transform its manufacturing plants – empowering people to use the latest processes. Simulation, the use of computers to create a physical mockup, was discussed.

Simulations are used for training, safety engineering, FEA analysis, process analysis, and optimization / tuning. Benefits are risk reduction, data-driven decision making, and simulations that serve as a digital experimentation sandbox. Simulation allows you to determine the most optimal solution.

Amcor uses two types of simulation for Industry 4.0 – DES and Visual.

DES Simulation (Digital Twin)	Visual Simulation
<ul style="list-style-type: none">▪ Plant Engineering▪ Plant Capacity▪ Process / Metric Balancing▪ Plant Optimization▪ What-If Scenarios▪ RPS	<ul style="list-style-type: none">▪ Layout Design▪ Visual Optimization▪ Spacing / Clearance Design Validations▪ Process Validations▪ Brown Field / Green Field Design▪ VR Experience

DES Simulation - Gather ideas, put them in a digital sandbox and then run simulations to determine the best results. Create dashboards to determine key parameters impacted by different scenarios, based on the data. Determine what is best for the plant.

Visual Simulation – Create 3d models. Have people and machines walking / featured in and out of a virtual world, similar to an actual state. Sources and variability impact from customer demand to customer receipt are studied.

In each process, variances occur that need to be simplified. The variances and data can be plugged into a model to determine how the plant behaves, enabling the company to make the best decisions. For Amcor, Excel has not been successful in handling time and event dependencies, variation, and complexity.

The Digital Twin Spectrum consists of:

- Reporting – What happened to my asset?
- Analyzing – Why did it happen?
- Predicting – What might happen next?
- Integrating – Bridging the IT / OT divide
- Prescribing – Recommending actions
- Autonomous Decisioning – Taking actions automatically

Amcor is currently in the predicting phase – able to predict what might happen next. They can model likely future behavior based on analysis of operational parameters. Various software is used to perform these tasks.

Amcor’s Advanced Manufacturing department is growing fast, making it critical they hire the right talent. They partner with the universities and empower their own people to get trained in these types of systems.

AMCOR & FOX VALLEY TECHNICAL COLLEGE PROJECT FOCUSED ON K-12 – STEVE MEYER, FVTC

There will be an enormous workforce need for people educated in Industry 4.0. Future needs must be determined to provide the right curriculum. A lot of things are happening now in the schools. Companies that want to get involved need good background knowledge about what is happening at their company. Opportunities must be age appropriate and inexpensive for the schools to implement. Educators need professional development so they are knowledgeable and can have fun instructing the students. Members are encouraged to get involved, as the goal is to provide sound Industry 4.0 education to northeast Wisconsin K-12 students.

Steve discussed FVTC's partnership with Amcor, an effort to enhance Industry 4.0 education. A year ago, Amcor reached out to Steve regarding Industry 4.0. They strategized and created a proposal to Amcor. Industry 4.0 curriculum was created, based on NEWMA's Industry 4.0 survey results. A lot of the curricula was developed to reflect Amcor's automation task / process.

Six schools were identified. Educators were provided with professional development that showed them how to build and implement this learning. Teachers constructed a project that allowed them to go back and teach it to their students.

The partnership with Amcor allowed students to learn about machines, cybersecurity, inventory control management, and IOT. This inexpensive project replicates company machines. Students have more ownership when they make something. They were also given a tour of Amcor, with a guide that was well aware of the learning they had done. This initiative also branded Amcor as a great place to work and brings context to their learning.

How can companies get involved in K-12 Industry 4.0 learning?

- Assist area schools to enhance Industry 4.0 education.
- Provide summer camps, professional development, curriculum resources, company opportunities.
- Develop some branded activities.

This Amcor program has been implemented in a number of schools across the State and has generated lots of excitement by students and teachers. Steve would like to make northeast Wisconsin a leader in Industry 4.0 education.

Members are encouraged to contact Steve Meyer for more information.

UPCOMING ALLIANCE EVENTS

TAPS + TOURS BUSINESS AFTER HOURS - at Green Bay's Automobile Gallery featuring Vyper Industrial - December 6 3:30 to 5:30 PM - [REGISTER](#)

QUARTERLY FULL MEMBERSHIP MEETING - Featuring Bob Chapman, CEO of Barry Wehmiller and author of the book *Everybody Matters* - December 16 - at UW-Green Bay, 12:00 to 2:00 PM - [REGISTER](#)

NEXT MEETING

The next Industry 4.0 Task Force meeting is on January 26, 2023, 1:30 to 3:00 p.m. Contact Ann if you have a case study you would like to share at January meeting.