

NEW Manufacturing Alliance
INDUSTRY 4.0 TASK FORCE – WEBEX MEETING MINUTES
Wednesday, January 19, 2022 – 1:30 to 2:30 PM

ATTENDEES: Ann Franz-NEWMA, Bob Webb-Cellcom/Nsight Telservices, Brian Schauf-Schreiber Foods, Chris Lipski-Vantage Financial, Craig Mickelson-CMD Corporation, Dan Heiser-SNC, Debbie Thompson-NWTC, Greg VandenLangenberg-Amcor, Hal Evensen, Jamie Lynch-St. Norbert College, Jela Trask-WEDC, John Dzissah-UW-Stout, John Katers-UWGB, Keri Pietsch-SNC, Linda Peacock-Landrum-UWGB, Maria Gonzalez-NEWMA, Mark Kralovec-PCMC, Matt Kanitz-M3 Insurance, Rick Roeske-PCMC, Sheila Schetter-LTC, Tate Lampe-Amcor, Tim Heyrman-KI, Uli Unterriker-Optima Machinery Corp.

WELCOME – BRIAN SCHAUF

NEWMA'S 2021 NEEDS, SKILLS, & TALENT SURVEY RESULTS – JAMIE LYNCH

Jamie Lynch, Executive Director | Keri Pietsch, Research Coordinator | Craig Stencel, Director of Operations
St. Norbert College, Strategic Research Institute | 100 Grant St., De Pere, WI 54115 | 920.403.3088

Research objectives included operations, industry 4.0 preparedness, and future educational pathways. The online survey collected data from September 30 to November 3, 2021. 66 companies completed the survey of 156 response items. 2019's survey results allowed for comparison data.

2021 Survey Results – Key Takeaways

- Economic optimism is increasing, but lack of planning for Industry 4.0 is a pressing concern.
- Investment in Industry 4.0 is increasing at an increasing rate.
- Curriculum & training programs that can handle cybersecurity are a must! Process engineers and data analysts are also currently needed.
- Jobs are changing fast. Process engineers and project managers must be agile.

Manufacturing sector top annual sales are in metal/allied products, machinery, and paper/allied products. Companies with 101 to 250 employees living and working in Wisconsin topped the list of respondents at 28%. Companies with more than 1,000 employees working in the U.S. and abroad topped the list at 26%.

Economic Climate

56% of 2021 respondents feel their business is better off than one year ago, as compared with 50% in 2019. For 2021, 29% stayed the same, while 15% feel they are worse off. The majority of respondents are optimistic.

Industry 4.0

For 2021: Only 11% of companies have a complete plan for implementing Industry 4.0. 62% have a partial plan, with 26% having no plan. 2% of the respondents were not sure. What challenges will they face with no plan or a partial plan in place?

Current Investment in Technologies

There has been a massive increase in organizational investment in technologies. 97% of companies are investing in cybersecurity, followed by 81% investing in cloud computing and computer science. Over the next three years, the biggest investments will be made in:

- Cybersecurity 83%
- Automation – Robotics 74%
- Smart IO / Systems / Industrial Internet of Things 61%

Departments most impacted by the integration of Industry 4.0 are IT (47%), engineering (43%), and production (41%). Human resources departments are considered to be the least impacted at 6%. IT is considered to be the most impacted by the integration of Industry 4.0.

Required Skills

- Cybersecurity (*Needed Now*)
- Automation & Robotics (*Needed Now*)
- Application Development, Cloud Computing, Computer Science (*Needed Now*)
- Big Data Analytics, Simulation, Data Predictions, Data Mining
- Smart IO / Systems / Industrial Internet of Things
- Artificial Intelligence (Machine Learning)

Process monitoring will have the greatest immediate impact, while virtual guided equipment will have the greatest impact in the next 2-3 years. Blockchain will have an impact in 4-5 years, followed by inventory tech (RFID, GPS, Vision). Drones are also expected to have a significant impact.

The occupations expected to be needed most in the next three years are project manager, manufacturing analyst, data management analyst, industrial computer programmer, supply chain business analyst, application developer, followed by cybersecurity officer. The project manager role has become critical with Industry 4.0. Educators are needed to meet these demands.

For the needed occupations, respondents choose how they would likely fill the roles.

- In-house reskilling / upskilling
- Work with the technical colleges and/or 4-year universities
- Online / virtual third-party technology (*least likely method to fill the roles*)
- Hire new employees
- Outsource role
- Not planning to fill the role

A primary concern is retraining current employees to fill certain areas where new skills are needed and old skills are now obsolete. Approximately 60% of the companies plan to close the skill gaps with their current employees. There is an opportunity to create a diagnostic to help companies identify skill gaps.

2021 RESULTS: HOW JOBS WILL BE FILLED - TOP 5 ROLES FOR EACH CATEGORY

In-house Reskill/Upskill: Project Manager, Cybersecurity Officer, Data Management Analyst, Manufacturing Analyst, Supply Chain Business Analyst

Work with Technical Colleges/Universities: Industrial Computer Programmer, Process Engineer, Project Manager, Application Developer, Industrial UI/UX Designer, Data Architect | More companies are motivated to work with the colleges than in 2019.

Hire New Employees: Project Manager, Industrial Computer Programmer, Process Engineer, Application Developer, Manufacturing Analyst

Outsource Role: Application Developer, Data Architect, IT/OT Architect, Industrial Computer Programmer, Cybersecurity Officer

Not Planning to Fill Role: Digital Thread Engineer, Vision Technology Networker, Virtual or Augmented..., Industrial UI/UX Designer, Industrial Data Scientist | There was a much lower response to not filling roles.

Important Educational Pathways

Project Manager / Data Analyst – Artificial Intelligence, Big Data Analytics, Virtual / Augmented Reality

Process Engineer – Everyone needs a process engineer.

COVID-19 has dramatically increased the prevalence of remote work in the manufacturing industry. However, remote work for manufacturing front line workers is still not expected.

2021 SURVEY RESULTS – NEXT STEPS

The survey results are useful for many entities, including the WEDC. It is important to know where company investments are being made and/or need to be made. Members would like to focus on broadening the study Statewide, in addition to researching similar data from other states. In addition, understanding how different sectors in manufacturing responded (i.e., machine builders to food manufacturers). Members will determine how the results can be best shared, highlighting the skill gaps. A faculty event to review the results can be held, similar to what was done in 2019. New LinkedIn training programs, similar to the Data Analytics training, can be created.

Jela Trask will pull data from other areas to share at the next meeting. Members can also share other similar data sources with Ann or Jamie for comparison.

UPCOMING ALLIANCE EVENTS

February 24 Webinar: Earn & Learn Overview | 12:00 to 1:00 PM

March 2: Quarterly Full Membership Meeting | 8:30 to 10:00 AM | TBD: Virtual or In-person

NEXT MEETING

The next Industry 4.0 Task Force Webex meeting is on February 24, 2022, 1:30 to 2:30 p.m. Agenda:

- ✓ Welcome & Updates
- ✓ 2021 Industry 4.0 Study Results – Moving Forward
- ✓ Upcoming Alliance Events
- ✓ Next Meeting Date/Time/Agenda