



## NEBRASKA MANUFACTURING EXTENSION PARTNERSHIP (NEBRASKA MEP)

The Nebraska Manufacturing Extension Partnership (Nebraska MEP) at the University of Nebraska-Lincoln provides manufacturing support and assistance to enhance the productivity and technological performance of small- and medium-sized manufacturing enterprises statewide. Leveraging relationships with technical specialists at the University of Nebraska and a network of external providers, Nebraska MEP offers an assortment of services to help manufacturers improve, grow, connect and lead.

Nebraska MEP's approach is to work with each client individually, understand their needs, and tailor a plan to meet specific goals and objectives. The end goal is to increase the profitability and competitiveness of manufacturers through a concerted effort to develop high caliber workers, foster product innovation, cultivate new customers and enter new markets.

## ECONOMIC IMPACT

MEP Center impacts are based on clients surveyed in FY2024



**\$7.5 Million**

Total Increased/Retained Sales



**113**

Total Increased/Retained Jobs



**\$10 Million**

New Client Investments



**\$2.1 Million**

Cost Savings

## CONTACT US



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## INTERN'S SUSTAINABILITY WORK LEADS TO COST SAVINGS AND INVESTMENT AT A NEBRASKA AMMONIA PLANT

**ABOUT NE NITRO GENEVA LLC.** NE Nitro Geneva LLC dba Nebraska Nitrogen is an anhydrous ammonia fertilizer manufacturing plant employing 60 people in Geneva, Nebraska. The operation serves farmers of the western corn belt, providing the necessary fertilizer to allow farmers to sustain soil fertility and crop production. The entire facility produces approximately 100 tons of ammonia fertilizer per day and has a storage capacity of up to 20,000 tons.

**THE CHALLENGE.** The Nebraska MEP, part of the MEP National Network™, in conjunction with the University of Nebraska (UNL) College of Engineering, reached out to Mark Winters, the plant process engineer, to ask if Nebraska Nitrogen had taken advantage of the University's P3 (Partners in Pollution Prevention) program. The program places engineering student interns over the summer at manufacturers to work on sustainability projects at the client site. Nebraska Nitrogen realized that they could benefit from contracting a P3 engineering student to increase its bandwidth of help and investigate ways to reduce costs and be even more sustainable. Mark had a short list of projects the plant had been wanting to address as it continues to improve its operations.

**MEP CENTER'S ROLE.** Matthew Jorgensen of the Nebraska MEP created a scope of work (SOW) with Mark to have a P3 intern work at Nebraska Nitrogen during the 2023 summer session. The SOW defined target project tasks for the intern to investigate and propose implementable recommendations related to plant processes and related equipment. The UNL P3 Program and Nebraska Nitrogen then jointly placed Jarod Harris, an undergraduate chemical engineering student, to investigate the steam efficacy and ways to improve it, along with further identifying other opportunities for greater operational sustainability of the site's process streams and their associated equipment during the 2023 summer session of the internship. Jarod spent much of the summer at Nebraska Nitrogen and examined specific equipment areas of the plant that each involved significant steam use: the waste heat boiler, three auxiliary package boilers, boiler feed water tank, water-gas shift reactor, and the ammonia stripper. Jarod then compiled all the data and analysis and delivered recommendations on options for Nebraska Nitrogen to implement that would improve the above operations. This also included validating Nebraska Nitrogen's initial short list of potential projects to help with steam use.

**"Working with Nebraska MEP and its partners at the University of Nebraska-Lincoln helps us to move forward value driven improvement projects we would not otherwise have the manpower to explore. These projects help us to improve the operability and efficiency of the plant while reducing our impact on the environment."**

-Mark Winters, Engineering Manager



## RESULTS



**\$290,000** in annual cost savings



**\$80,000** invested process equipment upgrades



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