

Technology Asset Grant Program Letter of Intent

Lead Applicant: General Mills (“GMI”)
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Primary Contact: David Engler
Proposed Project Title: MATS-150 Acquisition
Collaborator: The Wornick Company (“Wornick”)

Estimated State Funds to be Requested: \$1,500,000
Estimated Total Project Cost over Three Years: \$6,000,000+

Intended Use of Grant Funds: Acquisition of a Microwave Assisted Thermal Sterilization (MATS) machine capable of large scale production. Specifically, acquisition of a MATS-150.

Proposed Project Summary

Problem Statement

GMI has partnered with Wornick utilizing Wornick’s research & development center for Microwave Assisted Thermal Sterilization (MATS). The initial investment in this new technology was in the MATS-B process which is a small, non-commercial sized line (10 samples per hour) to be utilized to prove the concept, allow for development efforts, and establish Ohio as the center of MATS excellence. The GMI and Wornick partnership has brought together the expertise of both companies to advance this technology.

Wornick has developed their in-house research & development capabilities for this processing method. GMI has brought expertise in food science, consumer & market insights. This degree of experience will be necessary to reduce the MATS technology to commercial practice and achieve acceptable cost. The two companies have leveraged the MATS-B technology (small, non-commercialization sized equipment) to develop capabilities (a safe manufacturing system), delightful consumer products and a profitable business model.

GMI has demonstrated commitment to the MATS technology through exploration of MATS that utilizes and compliments the State of Ohio and Wornick research & development center investment and enabled GMI to test the technology before investing in a large-scale internal research program. The MATS-150 capital purchase is the natural next step to bring commercial ability to MATS technology. This capital purchase represents the potential to first realization of this technology through consumer products in retail locations.

The MATS technology represents the ability to provide higher quality versus current retorted products, shelf stable products, and, potentially, safer and/or cleaner label foods that consumers demand versus current alternatives in the fresh and refrigerated segment. The MATS-150 capital investment is required to bring these differentiated products to the consumer marketplace.

Project Goals and Objectives

The inclusion of a MATS-150 system in Wornick's manufacturing facilities in Ohio completes the full system needed including front end (loading) and back end (unloading) capital and processes to serve a variety of consumers including commercial and military customers high quality, better tasting meals.

Objectives

1. GMI serves the food industry across many categories impacting a large number of consumers. In addition, Wornick will have ability to broaden current customer base and offer unique services for existing customers.
2. With the acquisition of MATS-150 capital, GMI will be the first company in the world to utilize this technology for commercialization of products. In partnership with Wornick and placement in its research and development center for MATS technology, the State of Ohio will have a distinct advantage of the first commercial demonstration of the technology and, potentially, first expansion leading to increased opportunities for growth.
3. The MATS-150 production system will be located at the Wornick research & development center in Cincinnati, Ohio, and all product produced on this machine will therefore be produced in Ohio.
4. With the acquisition of the MATS-150 system, Wornick will need to employ 40 skilled and 15 unskilled personnel for all jobs associated with running the machine and the production line (filling, packaging, logistics, etc.) on a two-shift basis at its manufacturing facility. While this investment will be for the lead line, there are expansion opportunities at the manufacturing plant for incremental lines. The advancement of this technology in the Cincinnati facility will also secure and/or create additional support jobs in procurement, accounting and human resources. The MATS-150 system will also allow for improved training, educational experiences for OSU personnel, the development of an Ohio based center of excellence and future growth.
5. GMI invests carefully in capital in order to develop and grow new, large business opportunities. In this case, GMI has demonstrated belief and commitment to the MATS program over the course of several years resulting in dedication of people and money in order to fulfill a consumer need. Through successful identification and commercialization of consumer products, additional MATS-150 systems will be required as well as potential expansion of Wornick's facilities. We expect the need for higher quality, fresher foods to continue to be relevant and expand across product categories.

Technical and Commercial Approach and Work Plan

Work Plan

1. Secure Third Generation Funding: November 2014
2. Final Design of Equipment: April 2015
3. Design Validation Work: June 2015

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| 4. Construction of Equipment: | March 2016 |
| 5. Installation of the equipment: | June 2016 |
| 6. Equipment Validation: | September 2016 |
| 7. Regulatory Filings: | December 2016 |
| 8. Consumer Trials: | June 2017 |
| 9. Commercial Production: | September 2017 |

Purpose & Intent: Create differentiated food offerings with new technology that correlates with consumer needs.

Commercialization: The purchase of a MATS-150 system and ongoing investment in MATS technology as noted above is critical to understanding and overcoming challenges in launching a new food format to consumers. GMI has the ability to service a large variety of food categories and distribute these offerings across many distribution channels. Commercial barriers include (1) ongoing investment and support to educate consumers and (2) investment in manufacturing to service the volume of retailers and USDA and FDA approval.

Technical Challenges: Technical challenges include the uncertainty of taking an experimental technology and commercializing it for the first time. While there are many technical challenges associated with the integration of the front & back end of the process, material handling, and development of new products, the core technology of MATS has been proved at the Wornick research and development center. The plans to overcome the challenges noted are under development and will be included in the final design.

Team: A full cross functional team including project management, R&D and engineering of both GMI and Wornick research & development employees will be dedicated to the installation and commercialization of this new MATS capital and overall project. The team will be governed by a Steering Team made up of senior leaders in GMI and Wornick.

Commercial Maturity of the Technology/Market Acceptance

GMI is considering a purchase of MATS-150 capital based on the milestones achieved on the original MATS-B technology. GMI R&D has been evaluating and deeply involved with the evolution of this technology. We believe the purchase of a MATS-150 system will lead to creation of new products and categories with extendibility to multiple companies and consumers served.

Projected Impacts

Acquisition of the first MATS-150 capital and reducing this new technology to practice in order to create new food products will advantage the State of Ohio by bringing GMI interest and other CPG interest to Wornick's research and development MATS technology center. Investment and expansion of the technology has the potential to create a need for multiple MATS-150 machines in order to service demand. As Wornick deepens expertise in MATS technology, that expansion will happen in State of Ohio.

Sustainability

The required total investment for the capital purchase and installation of a MATS-150 is projected at over \$6 million. This does not include incremental investment required at Wornick's research & development center for increased utilities, expansion or other unknowns. It does not include the human resources that will be allocated and hired by Wornick for the project. Beyond the initial purchase and installation, additional capital and human resources will be required to customize specific food products. Upon commercialization and consumer awareness and purchase, additional MATS-150 capital, all supporting front and back end operations, and labor will need to increase to support national distribution. It is estimated that one MATS-150 machine will produce 25 million units to support customer demands.