



## UNITED STATES' EXPERIENCE

### **TITLE: The Manufacturing Solutions Center – Creating and Sustaining Jobs in Advanced Manufacturing in Small Town America**



**Country:** United States

**Institution:** The Catawba Valley Community College Manufacturing Solutions Center

**Type of Institution:** Public

**Other institutions involved:** City of Conover, North Carolina, USA

**Date:** January 2001 to Present

**Webpage:** [www.manufacturingsolutionscenter.org](http://www.manufacturingsolutionscenter.org)

#### **Context**

The Manufacturing Solutions Center (MSC) has its origins 23 years ago as the Hosiery Technology Center (HTC). It was created at Catawba Valley Community College at the request of the hosiery industry. The focus has always been about doing whatever it takes to preserve and create jobs. Originally the Center focused on training operators and technicians for the textile industry but over the years added many new services to help the changing industry stay viable. These included testing, export development, helping entrepreneurs, military procurement, applied R&D and prototyping. Gradually the HTC started helping more and more companies that were not hosiery related. The name of the center was changed in 2010 to better reflect what it does. MSC is a specialized research and consulting organization that has helped more than 300 U.S. manufacturers develop new products or improve existing ones in a wide variety of industries. These manufacturers range from large companies—such as Lee Industries, Nike, Hanes Brands, and HBF Furniture—to the smallest microenterprises. The center also conducts studies on products for client companies and helps develop prototypes for entrepreneurs.

A \$1.5 million U.S. Economic Development Administration investment made in 2010 to the city of Conover and Catawba Valley Community College helped build a new home for the MSC and its business incubator at Conover Station in Hickory, North Carolina. The two establishments are already cultivating a new form of manufacturing, one based in smaller and smarter factories that nourish innovation. The new 30,000 square foot facility, built on the premises of a former furniture manufacturing plant, allows for the expansion of those efforts. The building opened in November 2012.

### Objectives

The Manufacturing Solutions Center (MSC) located at Catawba Valley Community College is a unique business unit of the college whose specific mission is to provide solutions to manufacturers to increase sales, and improve quality and efficiency in order to create and retain jobs. MSC is fully staffed, equipped, and compliant with industry standards. It efficiently providing services such as:

- Product testing and analysis, using an ISO 17025-certified testing laboratory
- Problem-solving expertise in all manufacturing areas, including on-site issues
- Product development and improvement – reverse engineering/3D modeling
- Engineering services – rapid prototyping and 3D visualization/printing
- Marketing services – international sales and government procurement
- Training – lean manufacturing, supply chain management, and specific industry

MSC focuses on bringing the services that businesses need to be successful. Its clientele includes a broad spectrum of companies, ranging from large multinational corporations to small one-person start-ups. MSC serves a wide variety of industries across North Carolina. The staff is made up of individuals who have worked in manufacturing and know what it is to meet deadlines. MSC has many partners to help bring services to the client in the most cost-effective manner. Essentially, MSC exists to help employers keep and retain jobs in the United States.

### Relevance

The Conover Station Project occupies an area that once was a major employer in the region but subsequently became an eyesore. Since the grand opening of the building in November 2012:

- More than 2,000 middle school students, teachers, school administrators have been exposed to MSC and the new advanced manufacturing opportunities that are available there. Targeting the next generation of engineers and scientists.
- Export Ready Road Show held at MSC with North Carolina Department of Commerce and including representatives from seven foreign countries. Hosted visits and trained employees for such companies as Nike, Smartwool, REI, Gymboree, Gildan, Renfro, and others
- First incubator client has already doubled their space
- Testing volume is up 20% through first eight months of operation – 270 companies from 35 states and eight foreign countries
- Media coverage includes four radio program interviews; PBS and two local TV affiliates have done stories, in addition to numerous newspaper articles
- Outreach to University of North Carolina, North Carolina State University, Western Carolina University, and Appalachian State University to see how MSC can work with their students on projects
- Joint entrepreneur-client projects conducted in partnership with MSC, NC State University, and Western Carolina University
- Five summer interns are currently performing internships at MSC. Three are from area high schools, one from NC State University, and one from Catawba Valley Community College.
- Currently working with over 50 start-up companies at MSC

### Implementation

- Product testing for over 350 companies from 46 states since 2010
- Launching new products with existing companies and with new entrepreneurs.
- Creating marketing materials
- Promoting exports in conjunction with the U.S. and N.C. Departments of Commerce
- Prototyping textile products along with 3D printing prototyping for many different industries.
- Structural testing of everything from furniture to grill brushes

**Distribution of tasks**

MSC performs the work with clients, while the city of Conover has worked to get the word out to the public and to area manufacturers. The city has also worked closely with MSC to court potential new businesses to locate in the area.

**Achievements and results**

These are the results of the National Institute of Science and Technology's Manufacturing Extension Partnership Surveys for the period of January 2001 through December 2011:

- |                                     |               |
|-------------------------------------|---------------|
| • Increased Sales                   | \$52,025,639  |
| • Retained Sales                    | \$64,046,000  |
| • Cost Savings                      | \$3,969,231   |
| • Investment in Plant/Equipment     | \$14,575,000  |
| • Investment in Information Systems | \$2,399,863   |
| • Investment in Workforce Practice  | \$664,962     |
| • Investment in Other Areas         | \$1,688,001   |
| • Saved on Investments              | \$2,662,530   |
| • Total Economic Impact             | \$142,031,226 |
|                                     |               |
| • Employees Retained                | 1123          |
| • Employees Added                   | 391           |
| • Total Jobs                        | 1514          |

**Unexpected achievements**

The general public and the MSC's education partners have quickly embraced the project. Critically important was how the public perception of manufacturing has changed: from being considered a low-skill, dead-end job to an acknowledgement of the reality that the today's manufacturing sector is a high-paying one that requires advanced lifelong learning.

**Capacity to replicate and potential for exchange of this experience**

The experience and results are sustainable as long as the MSC and the city remain nimble and able to change with the needs of manufacturing. Their programs must always remain relevant and abreast of the changing world economic environment.

**Human, operational and institutional capacities**

MSC has a long history of working with many partners and agencies. We are willing to share our experiences, both positive and negative, with RIAC members. We are willing to give tours and can meet via videoconference or Skype to discuss how we can work together.

**Good practices and concrete lessons**

The key to being effective is to listen to the customer (manufacturers and entrepreneurs in MSC's case) and be willing to try new things. The ability to take chances and learn from mistakes will make any organization better. What works today will not necessarily work five years or even next year from now.

**Experiences and subjects to learn from other RIAC members**

We would be very interested in exploring export opportunities to RIAC countries for manufacturers and entrepreneurs we are working with.

**Key persons involved in the design, implementation, and evaluation**

Lee Moritz, Conover Mayor  
Donald Duncan, Conover City Manager  
Dr. Garrett Hinshaw, President of Catawba Valley Community College  
Dan St. Louis, MSC Director

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