



**Office Locations:** Boulder,  
Colorado Springs, Denver,  
Durango, Fort Collins,  
Grand Junction

MID-AMERICA MANUFACTURING TECHNOLOGY CENTER (MAMTC – COLORADO) Serving firms throughout Colorado through six offices.

Contact: Paul Clay, 10561 Barkley, Suite 602, Overland Park, KS 66212, (913) 649-4333,  
Fax: (913) 649-4498, Email: pclay@mamtc.com, Website: <http://www.mamtc.com>

## THE MANUFACTURING EXTENSION PARTNERSHIP IN COLORADO

Manufacturing Extension Partnership (MEP) is a nationwide system of services and support for smaller manufacturers to become more globally competitive. At the heart of the system is a network of affiliated, locally-based manufacturing extension centers. Each center, like MAMTC - Colorado, is a partnership, typically involving federal, state, and local governments; industry; educational institutions; and other sources of expertise, information and funding support.

### COMPANY CLIPS

#### NTT INCREASES PRODUCTIVITY BY 75 PERCENT

National Technology Transfer Inc. (NTT), of Englewood, Colorado, delivers customized training seminars for facilities, engineering, and industrial sectors. Established in 1984, the company currently employs 65 people.

NTT began investigating ways to improve the efficiency of assembly and shipping of its seminar packets. In addition, the company wanted to reduce costs overall. National Technology Transfer contacted the Mid-America Manufacturing Technology Center (MAMTC) for help. MAMTC conducted a Lean 101 training workshop with NTT staff, and then completed a value stream map (VSM) of the most critical area of the production process: the Seminar Administration Department. During a VSM, a current state map is compared to a future state map to uncover any non-value-added steps. With assistance from MAMTC, the company combined its Shipping, Seminar Administration, and Mailroom/Brochure departments, and created a work cell to streamline the production process and economize space. What used to take six employees 127 hours a week to complete now takes 5 people 45 hours a week—a 75 percent increase in productivity. The company's other impressive results include a reduction in shipping costs from \$45 to \$25 per seminar. NTT anticipates a 70 percent decrease in labor costs and a \$12,000 decrease in inventory.

#### IONICS INSTRUMENT REDUCES COSTS AND IMPROVES EFFICIENCY WITH LEAN MANUFACTURING

Ionics Instrument Business Group, of Boulder, Colorado, designs, manufactures, markets, and distributes scientific instruments for chemical analysis. Its products are used in the semiconductor, pharmaceutical, petrochemical, power generation, and food and beverage industries, as well as in medical research. Established in 1996, the company currently employs 150 people.

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### STATE STATS

DATA\* COVERS JANUARY TO DECEMBER 2001

Number of projects completed  
with firms  
**35**

Federal cost share for current  
operating year  
**\$650,000**

State/other cost share for current  
operating year  
**\$1,300,000**

*\*Data as reported from center*

DATA\*\* COVERS JANUARY TO DECEMBER 2001

Increased sales and retained sales  
**\$300,000**

Client capital investment  
**\$320,200**

Total Cost saving  
**\$1,335,000**

Jobs (created & maintained)  
**31**

*\*\*Source: Independent client impact survey*



Ionics Instrument wanted to improve its competitiveness and streamline its inventory and production processes while improving its responsiveness to customer demand. The company decided to implement lean manufacturing techniques and contacted the Mid-America Manufacturing Technology Center (MAMTC) for help. MAMTC conducted Lean 101 training sessions for nearly 30 employees at the company's facility, and then led 20 people through a value stream mapping (VSM) class to assess how to best improve production of the company's 800 series of Total Organic Carbon (TOC) Analyzers. TOCs measure the total organic carbon in ultra-pure water. During a VSM, a current state map of the production process is compared to a future state map to uncover any non-value-added steps. Upon completion of the process, Ionics Instrument spent six months making changes to the 800 series production area. The company created a cell, organized all the raw materials (254 total) into a two-bin kanban, and reconfigured the production layout.

The company now produces to "pull" rather than according to forecasted sales, and can respond to customer demands more quickly. Work-in-process has been significantly decreased, as has inventory. Ionics Instruments anticipates inventory savings of \$66,383, materials savings of \$33,333, and cost savings of \$13,800 as a result of MAMTC's training and implementation.