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**Evaluation of Generation II of the WIRED Initiative  
2008 Site Visit Summary  
September 29-October 3, 2008  
North American Advanced Manufacturing Research  
and Education Initiative Consortium**

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- Lead Organization: The North America Advanced Manufacturing Research and Education Initiative (NAAMREI)
- Project Director: Wanda Garza
- Fiscal Agent: South Texas College
- Target industries
  - Aerospace
  - Automotive
  - Communications
  - Consumer electronics
  - Defense
  - Industrial
  - Logistics
  - Medical



## **Part 1: Introduction**

The seven-county Rio South Texas Region lies in the flat valley of the Rio Grande. The unremarkable landscape is in sharp contrast to the dramatic economic transformation the region has experienced during the past 20 years. Once a poor agricultural region, it has been significantly impacted by the dynamic global marketplace. The region has witnessed robust population and employment growth. From 1990 to 2007, the region's population has increased at a 3.1 percent annual rate, adding more than a half a million individuals during the period.<sup>1</sup> Also, during that same period, employment increased by an even higher 3.8 percent annualized rate, with more than 230,000 jobs being created during the period.<sup>2</sup>

The reason for the region's outstanding growth is, in part, due to the rapid expansion of its non-governmental education and health sectors, which grew by an annual rate of 8.8 percent from 1990 to 2007 (an increase of 66,800 jobs in the region's three metropolitan areas).<sup>3</sup> Other sectors also saw growth between 1987 and 2007; employment in the professional and business services sector grew at a 5.6 percent annualized rate, while employment in the leisure and hospitality sector rose by 4.1 percent.<sup>4</sup> The region's logistical location on the border helped boost employment in the transportation and utilities sector at a 5.3 percent annualized rate during

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<sup>1</sup> U.S. Bureau of the Census, "Counties: Population Estimates" (2008. <[www.census.gov/popest/counties/](http://www.census.gov/popest/counties/)>

<sup>2</sup> Bureau of Labor Statistics (BLS), "State and Metro Area Employment, Hours & Earnings," (2008. <[www.bls.gov/sae/](http://www.bls.gov/sae/)>. Employment statistics are for the 3 metropolitan statistical areas of Brownville-Harlingen, Laredo, McAllan-Edinberg-Mission

<sup>3</sup> IBID

<sup>4</sup> IBID

the 1982-2007 period.<sup>5</sup> Unfortunately, during the same timeframe, the competitive advantage of neighboring Reynosa, Mexico significantly reduced the region’s manufacturing base by 8,300 workers, an annualized decline of 2.3 percent.<sup>6</sup>

In the global marketplace, the region’s border location puts it in a strategic economic position as a transportation/logistical gateway to the U.S. Indeed, the region’s role in the international economy could become more pronounced if its efforts to gain “Third Coast” status are achieved. According to the McAllen Economic Development Corporation (MEDC), it would be 25 percent more cost effective to have products and commodities from Asian producers unloaded at the Mexican west coast ports of Manzanillo and Lazarc Cardenas or the Mexican Gulf Port of Altamira and then transported to the McAllen/Reynosa’s (Mexico) port of entry, rather than going through the current U.S ports of entry system.<sup>7</sup>

The region’s industries, such as Panasonic and Black & Decker, face substantial wage competition with their neighbor to the south. Reynosa, Mexico (population 1,200,000)<sup>8</sup> is a manufacturing powerhouse with Motorola, Delphi, ARC Automotive, and Emerson—to name a few—having large production facilities within its boundaries. The table below clearly expresses the stark differences between Reynosa, Mexico and the WIRED region when it comes to pay.

**Wage Comparisons**  
***WIRED Region vs. Reynosa, Mexico***<sup>9</sup>

<b>Occupations/Work</b>	<b>Reynosa, Mexico</b> <i>(Per Hour)</i>	<b>WIRED Region</b> <i>(Per Hour)</i>
Entry Level (With Benefits)	\$2.60	\$7.93
Production Work	\$3.30	\$9.07
Machinists	\$3.67	\$10.56
Engineering Managers	\$8.22	\$37.08

Improving the quality of its existing workforce is as big of a challenge for the region as trying to attract and retain manufacturing activity on the U.S. side of the border. A lower percentage of 25-to-34 year olds living in the three metropolitan areas of the region have achieved a bachelor’s degree or higher as compared to the nation as a whole. In the McAllen-Edinburg-Mission MSA, only 14.9 percent of 25-34 year olds earned a bachelor’s degree or higher; in the Brownsville-Harlingen MSA, it was a low 12.2 percent, and in the Laredo MSA it was 22.5 percent. Nationwide, 29.1 percent of this age group have completed four years of college or higher in 2007.<sup>10</sup>

<sup>5</sup> IBID

<sup>6</sup> IBID

<sup>7</sup> North American Advanced Manufacturing Research and Education Initiative (NAAMREI), City of McAllen NAAMREI Partnership Initiative, June 15, 2008—Power Point Presentation.

<sup>8</sup> Keith Patridge, Greater McAllen Alliance , Presentation of the McAllen TX/Reynosa, MX Metro Area at the Workforce Innovations 2007 Conference, Kansas City, Missouri.

<sup>9</sup> IBID

<sup>10</sup> U.S. Bureau of the Census, “American Community Survey 2007” (2007 <<http://www.census.gov/acs/www/index.html>>)

The seven-county region houses several community colleges (Laredo Community College, South Texas College, Texas Southmost College, Texas State Technical College), as well as two universities (University of Texas Pan American and University of Texas Brownsville).

### Goals

The North American Advanced Manufacturing Research and Education Initiative Consortium (NAAMREI), which is the name of the WIRED designed region, has three major goals, as stated in their implementation plan.<sup>11</sup>

**Goal #1: Strengthen the Region's Advanced Manufacturing Sector by Establishing a Center for Rapid Response Manufacturing (RRM).** The North American Technology and Innovation Alliance (NATI) is the lead agency for this effort. NATI is a research and development alliance that is directed primarily by the University of Texas Pan American (UTPA), in partnership with Monterrey Tech of Mexico and Michigan State University. RRM maintains two interconnected focuses.

- The first focus is to grow the size of the region's engineering workforce. RRM is currently working with Region One-ESC (Education Service Center), which assists K-12 school districts, community colleges, and universities to ensure that students are aware of the career opportunities in engineering and manufacturing design. It is also working with companies (in partnership with area economic developers) to bring students and faculty into the workplace to streamline the manufacturing process, with a direct focus on decreasing the time from product development to distribution.
- The second focus is to enable the region's manufacturers to turn ideas into products as efficiently and effectively as possible. The clear challenge that the NAAMREI sees every day is that routine production of standardized products is more cost-effectively located in Mexico. Instead of competing against its neighbor to the south, RRM intends to provide the means for the region's manufacturers to be one step ahead of product standardization by constantly creating new products. This would allow manufacturing jobs to be created that do not compete against Mexican manufacturers, but instead operate in a more customized and innovative arena.

**Goal #2: Establish a Skills-Credentialing Customized Training System that Meets the Business Needs for a World-Class Workforce.** The Rio South College Manufacturing Alliance, headed by South Texas College, is the lead agency of this alliance of the region's community colleges. The alliance has started regional apprenticeship program for tool and die, industrial maintenance, machinists and plastics. To achieve this goal, four regional Advanced Manufacturing Training Institutes have been created and are operating on the campuses of Laredo Community College, South Texas College, Texas State Technical College and the University of Texas at Brownsville/Texas Southernmost College. As of the second quarter of

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<sup>11</sup> Texas Office of the Governor (Grant Recipient), *North American Advanced Manufacturing Research Initiative (NAAMREI) WIRED Implementation Plan* submitted to the U.S. Department of Labor, October 2007.

this year, 741 students have been trained.<sup>12</sup>

***Goal #3: Develop a Strong Network Among High School, Postsecondary Education, and Economic Development Activities Through the Activities of the Region One ESC T-STEM Center Alliance.***

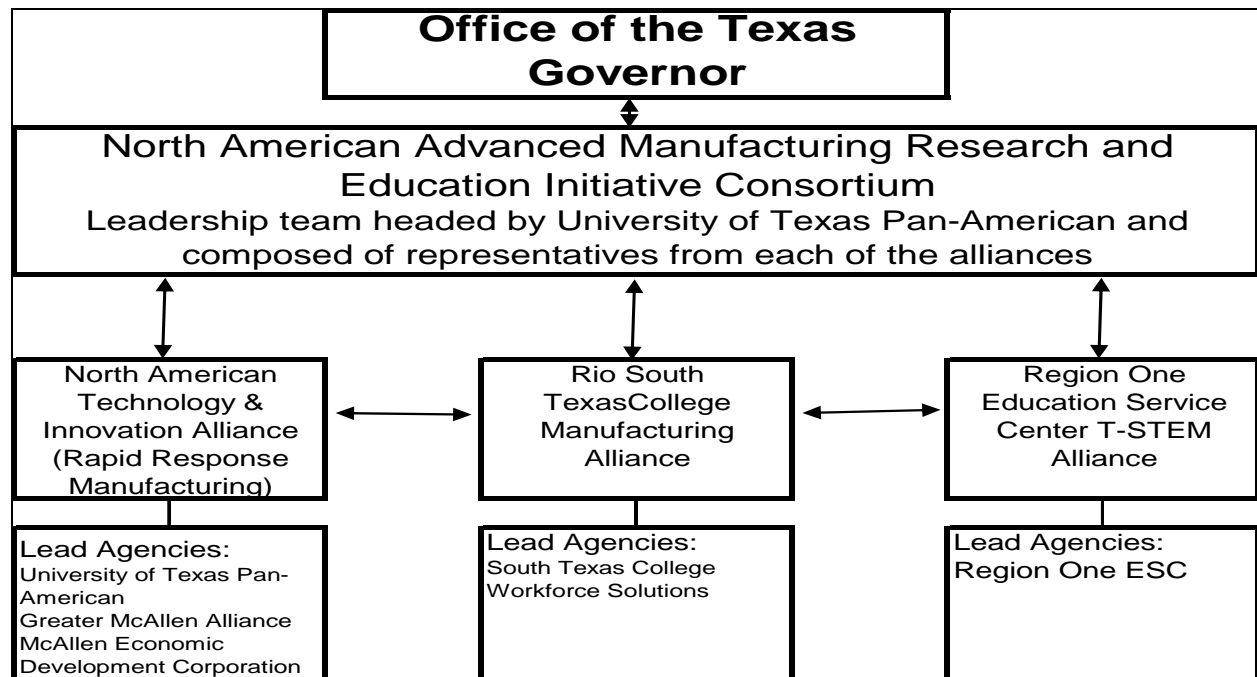
The T-STEM Center Alliance provides educational support by creating and conducting curricula in science, technology, math, and engineering; providing training for teachers, counselors, and administrators; and creating business partnerships with K-12 school districts. At the time of the site visit, 612 teachers had already participated in the program.



**Organizational Structure and Decision Making**

As will be highlighted in more detail below, the region has a long tradition of working together on a project-by-project basis. The WIRED initiative provides another structure for the region's stakeholders to work together. In short, the region already had the "will" to partner, and the WIRED initiative provided the structure. As one interviewee commented, "It married us instead of having various affairs over time." The basic organizational structure of the NAAMREI is presented in the figure below.

<sup>12</sup> Rio South Texas WIRED, "2008 Second Quarterly Narrative Progress Report" (2008).



**Figure 1**

NAAMREI is housed at the South Texas College, and it manages the three major activities of the WIRED initiative. The lead agencies for the North American Technology and Innovation Alliance are the University of Texas Pan American, the Greater McAllen Alliance, and the McAllen Economic Development Corporation. This action team also includes most of the region’s economic development organizations, major employers, and five universities. Its primary activity is the RRM Center.

The Rio South Texas College Manufacturing Alliance is the lead organization assigned to establish a skills-credentialed customized training system for the region’s manufacturers. South Texas College and Workforce Solutions, the region’s WIAs are taking the lead in the Alliance and its policy board includes three manufacturing associations, four community/technical colleges, and the region’s three workforce development boards.

Finally, the Region One ESC is the lead agency for the T-STEM Alliance which also includes representatives from the region’s ISD’s, two-year colleges, and universities. The Alliance provides training assistance to support a strong network among high school, postsecondary education, and economic development activities.

## Part 2: Implementation

### Leadership

The executive officer of NAAMREI is a very energetic and highly respected individual who has successfully built partnerships by traveling around the region and keeping in constant communications with the participating agencies. Numerous individuals whom were interviewed

cited the director's commitment and drive as a major reason for the successes of NAAMREI so far.

The McAllen Economic Development Corporation (MEDC) and the Greater McAllen Alliance both play key leadership roles, as does the University of Texas Pan American. For example, it was through the efforts of MEDC and other economic development stakeholders that the Rio South Texas Economic Council was formed. Seen as a key activity of the North American Technology and Innovation Alliance, the Rio South Texas Council is a regional organization of economic development stakeholders and its mission is to promote economic expansion and diversification of communities in the Rio South Texas region.<sup>13</sup> It is open to all counties, cities and/or local economic development corporations, chambers of commerce, education institutions and councils of government; as well as the private sector, utility companies, trade groups and other public or non-profit parties.<sup>14</sup>

Still, like most regions, there are isolated turf fights among some of the organizations; there exists some tension between some of the region's community colleges. Several individuals interviewed suggested that the K-12 education community has been slow to come to the table. However, at the time of the site visit, this tension seems to be a minor problem.

### **Partnerships and Collaboration**

The Rio Grande Valley Region has had a long history of partnerships and collaboration especially among its higher education and economic development communities. In part this history of partnership was done out of necessity; since, in the past, the region had so few resources that existing organizations had to partner and collaborate to simply survive. The legacy of those hard times has built a solid foundation that continues to provide a productive environment for collaboration.

However, it is important to note that the NAAMREI consortium is not based solely on previously existing partnerships; it has created new ones as well. For example, two years ago, Laredo Community College was perceived as a "non valley" competitor; now they are full partners in NAAMREI and are working to establish a training curriculum similar to the one developed by the South Texas College. This example is only one of a general theme that was heard during the site visit by the evaluators—the WIRED initiative has successfully formed partnerships among potential competitors.

NAAMREI also adds value by bringing together diverse resources into a strong network. As one interviewee commented, we now "know who to call for advice or cooperation."

Regarding the economic development partnership, again, it is worth mentioning that the MEDC, the Greater McAllen Alliance (which already represents five separate economic development organizations) and others economic development stakeholders, have formed the Rio South Texas Economic Council. This Council is better able to address regional issues that impact all of the region's economic development initiatives. Together, the economic development organizations

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<sup>13</sup> Bylaws of the Rio South Texas Economic Council adopted on October 13, 2008

<sup>14</sup> IBID

are working to achieve one of the region's more ambitious goals: to attract a new auto assembly plant into the region.

By taking advantage of the RRM, effective partnerships are being formed between businesses. Noted by the businesses interviewed, the RRM has established a productive environment for firms to tap into the engineering strengths of the University of Texas Pan American and, at the same time, explore new production concepts.



The only weaknesses that were heard in the site visit interviews was that the region's P-16 Planning Development Councils could be more involved in the initiative, and that NAAMREI could improve its outreach to the region's public schools and help establish better linkages between the area's high schools and colleges. The P-16 is a statewide program focused on increasing graduate rates, helping to prepare students for college, and improving the workforce readiness of high school graduates. It does this by trying to coordinate education policy from Pre-K to post-secondary education, and by trying to strengthen the existing relationship between pre-K-12 public education, postsecondary education, and the business communities.

Regarding the four advanced manufacturing training institutes, one stakeholder interviewed believed that they needed to develop a better program that encouraged more meaningful input from industry. Not only would this keep them at the table, but also improve the customized training programs being offered at the region's advanced manufacturing training institutes.

### **Communications**

Communication between the NAAMREI partners is enhanced by four factors.

- Many of the organizations and their representatives were working together long before the WIRED initiative and have established strong formal and informal relationships.
- The executive director of NAAMREI either visits (logging in 30,000 miles last year on her car) or e-mails the initiative's partners on a regular basis.
- The wide use of e-mails and a new phone system at South Texas College provides easy access to all members of the partnership.
- On top of the informal but effective day-to-day communication system described above, NAAMREI has established a very formal structure of quarterly meetings and a wide distribution of quarterly reports and other documents.

### Asset Mapping

At the time of the visit, NAAMREI was just starting to map its regional assets. The initiative had finalized a contract with University of Texas Pan American and moreover it was adopting an approach that was used in Cameron Works, the local workforce board in Cameron County, instead of starting from scratch. There is a general interest in the concept of asset mapping, as it is an exercise that had not been done before in the region outside of Cameron County. Nevertheless, one person interviewed expressed his doubts about the usefulness of the exercise since many of the NAAMREI partners are long-term residents and already understand the strengths, availability, and weaknesses of the region's assets.

### Leveraged Funding

The partners have been effective in obtaining grant dollars to support activities. For example, in April, South Texas College was awarded \$247,000 from the Texas Workforce Commission to establish a National Institute for Metalworking Skills Center at its Technology Campus. In addition, according to its 2008 quarterly report, the WIRED effort had already leveraged nearly \$20 million, including \$6 million from the Texas Workforce Commission, for skills training; \$209,000 from the City of McAllen for the expansion of a training facility; and \$11.1 million for the construction of MEDC's Regional Multi-Modal Center.

### Sustainability

At the state level, the Rio Grande Valley is known for its persistence and effectiveness in grant writing. As one state official noted, "If they need money, they go find it." Again, it seems that the long history of collaboration between the NAAMREI partners improves their abilities to response to the grant opportunities..

The WIRED leadership team also believe that the partnership between NAAMREI and the newly formed Rio South Texas Economic Council will be sustainable because it addresses the region's needs for an integrated economic and talent development approach to economic development. As shown in the figure, the NAAMREI provides the resources and environment necessary for the Rio South Texas Economic Council to carry out its tasks.

Regarding the RRM, it is its goal to become self-supporting after the WIRED grant expires. It has already gained the support and active participation of several of the area's manufacturers; however, its long-term viability will likely depend on its capacity to launch new products in the next two years. According to interviewed individuals, while RRM's role as a

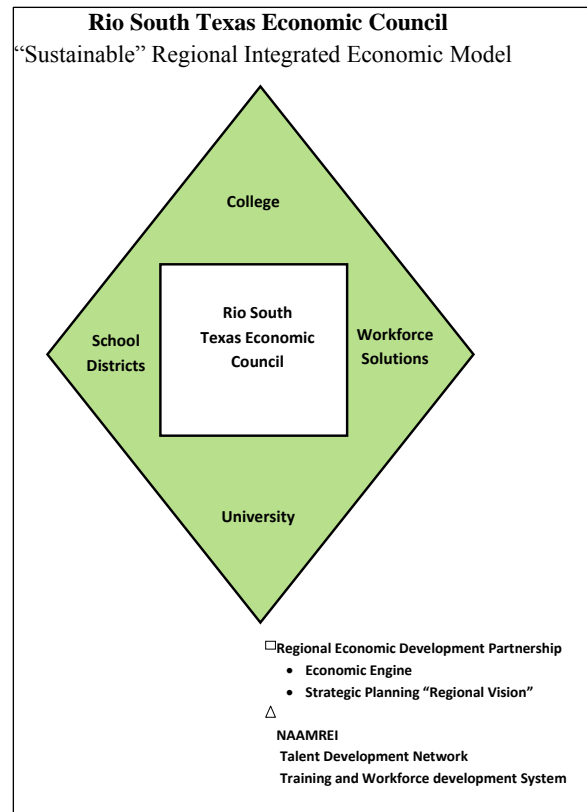


Figure 2

training center is very important, it will not likely survive if that is its sole function.

Finally, the South Texas College has given NAAMREI institutional support for a three-year period which provides a stronger relationship than simply a partnership agreement and also provides the means to keep the NAAMREI executive officer position filled.

The one word of caution regarding the sustainability of NAAMREI is that it is dependent upon in-kind services from Region One-ESC and other partners and the ability of these entities to continue to provide the uncompensated in-kind services in the long-run is questionable.

### **Implementation Challenges**

The region has encountered several challenges over its first year of performance.

**Challenge #1: Keeping the Momentum Up.** NAAMREI benefits from the high-energy of its executive director and key members. Moreover, many of the partners have been providing in-kind and non-compensated services. While this shows a strong support for the program, there is a question whether this current level of activity can be maintained.

**Challenge #2: Unique Characteristics of the Region.** The region faces two challenges which may slow NAAMREI's progress. The first challenge, as mentioned previously, is the overall low education achievement level of the region's workforce. As one stakeholder said, "We need more than just 10 percent of people having college degrees to get employers to move here."

Of course, much of NAAMREI's efforts are directly focused on this issue; i.e., its four advanced manufacturing training institutes and the Region One ESC T-STEM Center Alliance. Progress is being made on this front. The enrollment in the region's universities and colleges has been increasing dramatically over the years. Nevertheless, the high school dropout rate remains high and, according to one stakeholder, approximately 30 percent of the dropouts are new immigrants, many of whom do not have high school education.

The second challenge is the manufacturing powerhouse just south of the border. While the region benefits from the high percentage of production managers (who live in the region and commute daily to assembly plants in Mexico) and the resulting demand for logistics services (e.g., trucking and warehousing); at the same time, its potential to attract and retain manufacturing activities is limited by the wage cost advantage of a Mexican site. NAAMREI and the region's economic development organizations have responded to this second challenge with three initiatives:

- First, the RRM is an innovative strategy to retain the leading edge of the region's manufacturing activity; however, only time will tell if it is a success.
- Second, they are aiming to attract a new auto assembly plant into the region by 2010. The location would offer immediate access to the low-cost suppliers in Mexico.
- Third, to take advantage of its international gateway position, the region is working to enhance its Foreign Trade Zone facility into a multi-modal transportation hub with the capacity to load and run a train daily to Midwest destinations.

**Challenge #3: Development of an Entrepreneurship Program.** Entrepreneurship has taken a back seat as the region worked to get the RRM Center and its four advance manufacturing training institutes up and running. At the time of the site visit, NAAMREI was just turning its focus onto entrepreneurship. The McAllen Chamber of Commerce and UTPA have already presented their “entrepreneur boot camp” in June and the UTPA College of Business Entrepreneurship Lecture Series is underway. It may be a difficult transition since up to now NAAMREI has focused its efforts on workforce development and cultivating innovation from its existing manufacturers.

### **Successes**

There are three successes stories in reference to NAAMREI that bear mentioning now.

**Success Story #1: Strong Partnerships.** The region has developed a very strong partnership network that is breaking down silos and turf issues. This is especially the case with the initiative’s economic development partners with formation of the Rio South Texas Economic Council. The region is helped by the fact that the network was built on a long history of collaboration among the region’s institutes and organizations. Nevertheless, the knowledge of “knowing who to call” and the ability to share information on a formal and informal basis enhances the region’s communication network. Finally, the NAAMREI’s partners are kept informed and are supported by an energetic executive director.

**Success Story #2: Rapid Response Manufacturing Center.** Although it may be too early to formally call it a success story, the Rapid Response Manufacturing Center is an innovative approach to retaining and expanding the region’s manufacturing base. The center has already completed two RRM projects for Alps Automotive.

In the interview with the individuals from businesses that are currently using the Center, there was general agreement that the center added to their capability to design and produce new products.

**Success Story #3: The Advanced Manufacturing Training Institutes.** The establishment of four skills-credentialing, customized-training facilities designed to meet the needs of business, directly addresses the region’s long-term workforce quality challenge. Again, for the region to be successful, it must work with the region’s businesses to maintain the skilled manufacturing activities on the U.S. side of the border. As of the second quarter of 2008, the institutes (located on four campuses) have trained more than 700 students. In addition, the institutes have gained the support of the business community.

### **Part 3: Performance Measures**

The region’s implementation plan clearly defines the performance measures and performance data and these data are being collected on a consistent basis. The region is on track to meet, if not exceed, most of its performance benchmarks. Quarterly reports are being submitted on time. As mentioned, the region has made concrete plans to do asset mapping, basing its approach on one that was completed for Cameron County.

## Part 4: Observations

The region has established a very productive web of partnerships driven, in part, by the region's long history of working together, as well as the energy of the project's executive director. During the visit, the site visit team witnessed on many occasions an easy yet effective relationship among the stakeholders. While it is crucial to note that strong leadership exists throughout the three strategies of the region's WIRED initiative, the program is very dependent upon the energy of its executive director. If, for any reason, she stepped away from the program it could seriously set the program back for a fairly long period of time.

The region has been actively achieving its goals as set forth in its implementation plan. It has established four advanced manufacturing training institutes/centers on four campuses and is providing services to 23 employers who are training nearly 70 incumbent and new workers. The Region One Education Service Center has opened its T-STEM Center and has already provided training for 612 teachers.

RRM is an innovative move and it is firmly based on the economic structure of the greater Rio Grande international region. The center has completed two RRM projects for Alps Automotive and has gained the support of several of the region's top manufacturing companies. The goal of RRM is to aid firms in developing the prototypes of products as well as the products themselves quickly and efficiently. With the strong cost advantages of performing routine manufacturing operations across the river in Mexico, the WIRED region's best bet is to house the design and innovation operations, as well as its logistics.

However the RRM will not meet the needs of many of the region's current businesses because:

- It does not address the needs of the growing number of merchandise return centers.
- Many manufacturers are small and provide specialized manufacturing services or products.
- Many are basic production sites for large corporations, especially food products.
- Other manufacturers make standardized components for other industries including autos.

Finally, the NAAMREI stakeholders have a clear understanding that the region's under-skilled and growing workforce is its greatest challenge. The opening of its advanced manufacturing training institutes/centers and its involvement in training K-12 teachers through Region One directly addresses this challenge. One stakeholder made the observation that the WIRED initiative is an improvement over the existing WIA workforce development programs where staff felt pressured to "try to spend money at the rate they are supposed to in order to fund it, instead of using it on the right things." Moreover, with greater business involvement, NAAMREI, as the stakeholder noted, is "getting better information on what the needs of the business community are."

## Part 5: Site Visit Details

- Dates of Visit: September 29 to October 3, 2008
- Site Visitors: George Erickcek and Sarah Klerk, Upjohn Institute.
- Site visit interviews included representation from the following organizations:
  - Laredo Community College

- Workforce Solutions
- South Texas Manufacturers Association
- Region One Education Service Center
- Texas Workforce Commission
- South Texas College, The Institute for Advanced Manufacturing
- South Texas College
- The University of Texas Pan American, Rapid Response Manufacturing Center
- ALPS Automotive, Inc.
- Motorola, Inc.
- GE Infrastructure
- Texas Workforce Investment Council
- McAllen Economic Development Corporation
- Mission Economic Development Authority
- Cameron Works