

MARKET ST

CAPITAL CROSSROADS 
A VISION FORWARD



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Market Street brings original insights and clarity to the evaluation and revitalization of the places where people live, work, and grow. Through honest and informed assessments, *Market Street* can equip you with the tools to create meaningful change. Our solutions successfully merge our experience and expertise with the economic and social realities of our clients. *Market Street's* community clients are successful at creating stronger programs, increasing operational budgets, and creating new quality jobs that improve the quality of life in their communities.

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OVERVIEW

This *Target Cluster and Marketing Analysis*, a component of the Capital Crossroads strategy process, takes a “bottom-up” approach to target identification in Central Iowa, as opposed to the more traditional “top-down” approach. A bottom-up approach begins by examining the attributes of the region’s workforce – the occupations, skill sets, and types of knowledge that support the region’s business activities – rather than beginning with an examination of the region’s business activities. It is Central Iowa’s competitive advantages with respect to its talent base and the quality of place that will support the development and continued growth of its target sectors. This research led to the identification of priority target sectors and niches that warrant attention and investment from Central Iowa’s economic development, training, government and institutional entities. A marketing analysis then examines Greater Des Moines existing programs leveraged to tell its “story” to external prospects, site selectors and existing businesses contemplating expansion.

It is important to understand how the *Target Cluster and Marketing Analysis* report fits into the “bigger picture” of the Capital Crossroads process. Though it is a separate research document, it has nevertheless been influenced by the key “People, Place, Prosperity” findings of the *Competitive Capacity Assessment* and will directly contribute to the components of the Capital Crossroads strategy. The planning process builds upon itself as it moves forward, with the final result being the strategy itself. The strategy will not only incorporate issues and opportunities identified by the two research deliverables, but will determine how to tie everything together. For example, how does education and training affect pursuit of a particular target sector?

The complete Capital Crossroads planning process includes:

- An **Economic and Demographic Snapshot** inclusive of key indicators affecting the region’s population and economy that was presented to the Steering Committee at its first meeting in early November.
- A **Community Capacity Assessment** that compared Greater Des Moines and Central Iowa against the regions of **Omaha, NE; Madison, WI; and Denver, CO** to determine how the Des Moines metro area competes for jobs and talent in the New Economy.
- This **Target Cluster and Marketing Analysis** that identifies key business sectors that Des Moines and Central Iowa are most competitive for in addition to assessing the ways in which the region markets itself to the nation and world.
- All of the research conducted for the process will inform the development of the **Capital Crossroads Plan**, a five-year strategy providing the region with a vision for sustainable economic growth and development.

- The **Implementation Action Plan** determines how the Capital Crossroads Plan will be put into action. Implementation priorities, lead and support entities, budgets, performance measures, and other elements are included in this report.
- Overseeing all parts of the process is the **Steering Committee** of diverse local leaders assembled to ensure the visioning process reflects the key needs and opportunities of the Greater Des Moines and Central Iowa region.
- Underpinning the Capital Crossroads research is an incredibly robust **public-input process** that leveraged nearly 4,500 local stakeholders in the determination of the region's competitive position and strategic priorities.

At the end of this months-long process, Greater Des Moines and Central Iowa will have a blueprint to follow as it continues its evolution into a true community-of-choice for businesses and talent.

TARGET CLUSTER ANALYSIS

The economic development strategy of targeting certain “clusters” of economic activity has become increasingly widespread over the years as regional economies attempt to capitalize on their strengths and competitive advantages. Such target groupings create external economies of scale for these businesses as they share common labor pools, infrastructure, and other resources while reducing costs through proximity to upstream (suppliers) and downstream (buyers) linkages. These advantages, coupled with the network effects that exist within broader sectors, often result in comparatively high potential for employment growth and wealth creation.

In the field of economic development, there are many methods used to identify target clusters. *Market Street’s* analysis is *holistic* and will present target recommendations and explain competitive advantages and concerns in the areas of **People** (occupational dynamics), **Prosperity** (business sector dynamics), and **Place** (Central Iowa’s competitive dynamics in terms of infrastructure, regulatory and tax environment, research assets, etc.) for each target cluster.

Recommended targets were selected based on comprehensive quantitative and qualitative research (as further explained in the Methodology section of this report) including job and wealth generation potential (wages and GDP), relevant support services, educational opportunities, research activity, recent developments, infrastructure, success with current targets, regional target activities, and stakeholder input.

The targets currently pursued by the Greater Des Moines Partnership are:

- Finance and Insurance
- Warehousing/Distribution
- Biotechnology
- Information Solutions
- Advanced Manufacturing

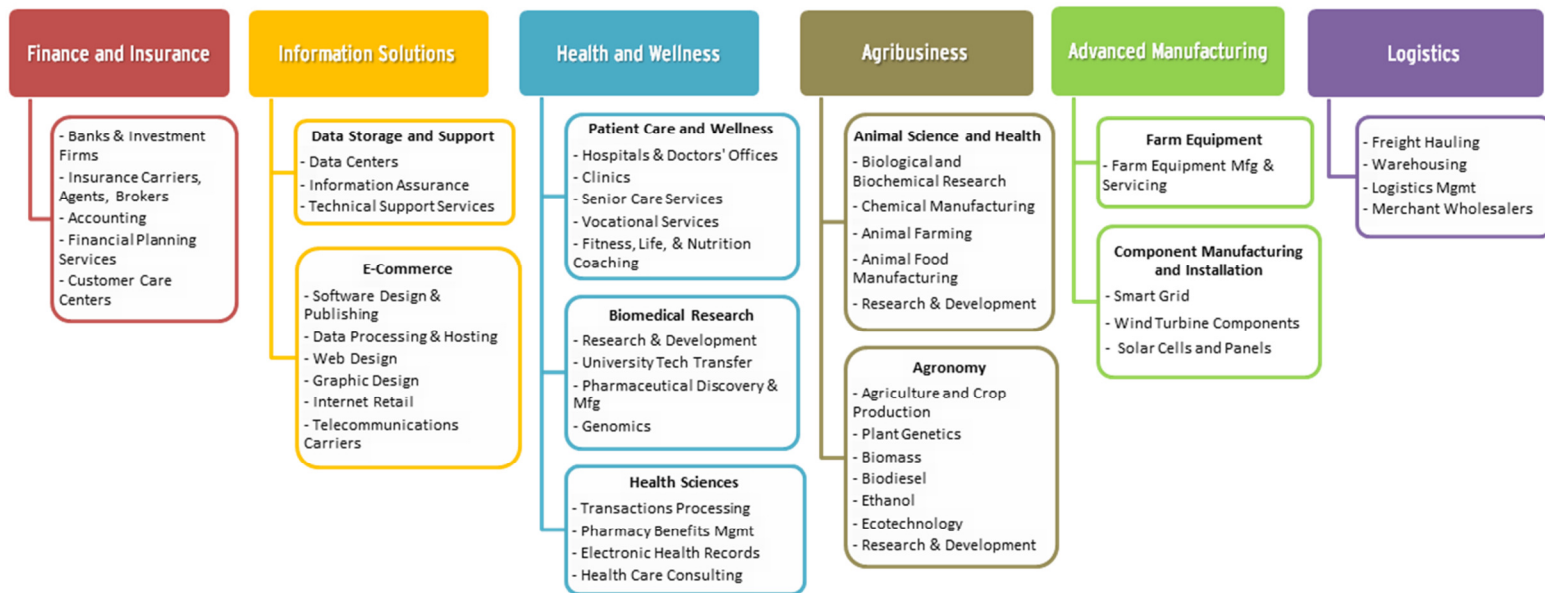
RECOMMENDED TARGETS (2011)

After analyzing Central Iowa’s occupational dynamics, employment and wage growth between the second quarters of 2005 and 2010, reviewing the performance of the Greater Des Moines Partnership’s existing targets, and considering the region’s institutional and training capacity, *Market Street* is recommending revisions be made to the existing targets.

These recommendations do not reflect an overhaul of current economic development targeting efforts, as the Partnership has had strong success in many of these areas.

Rather than a “revolution” of efforts, they are an “evolution” of target-based strategies.

The following targets (solid boxes) and niche areas (outlined boxes with titles) are recommended for region to pursue.



Targets reflect a broader base of economic activity, with specific “niches” at their core. When appropriate, the more broadly-defined targets capture a range of sub-sectors that may indirectly benefit from strategies focused on the “niches” within each target. These are shown in NAICS “definition” tables associated with each target in the remainder of the *Target Cluster and Marketing Analysis*. For Greater Des Moines and Central Iowa’s target recommendations, “niches” reflect high-value opportunities for local growth based on competitive strengths in existing employment, research capacity, and training resources. Effective development of these sub-sector niches leads to possibilities for growth of larger target groupings of affiliated companies and employment.

Effectively capitalizing on the region’s target opportunities will require local economic development organizations and departments, governments and training institutions to partner in dynamic ways to ensure that sectors are pursued through multi-faceted and holistic programs. These include equal focus on existing business retention and expansion, small business development, and recruitment/attraction. Specific strategies and action steps for growing these recommended target sectors, including opportunities for supporting and facilitating entrepreneurship and increasing and leveraging tech transfer within the region, will be included in the forthcoming Capital Crossroads strategic plan.

TARGET CLUSTER: FINANCE AND INSURANCE

Justification

- Most concentrated employment sector in Central Iowa
- Presence of multiple large corporations with strong name recognition
- Tremendous capacity in workforce skills and training programs
- Fair and respected state regulatory commission
- Corporate executives continue long-standing role of volunteership for public and public-private leadership positions

Challenges

- Continued uncertainty caused by global financial crisis
- Potential hindrance of growth due to increased federal regulation and oversight
- Passenger air capacity and cost of Des Moines International Airport
- Vulnerability if one or more large corporations is taken over and moved
- Competition for top talent from larger metropolitan areas

Opportunities

- Capturing affiliated finance/insurance operations from regional diversification sectors
- Enhanced efforts to ensure the retention and expansion of large existing firms
- Broadened national and international awareness of Central Iowa's competitive position for finance and insurance firms
- Leveraging local talent to seed and launch small businesses in this sector

Target Overview

The share of goods-producing employment in the United States has steadily declined in recent decades. Since 1970, its share has eroded from 31 percent to just 16 percent. Economic forces of globalization have forced many manufacturing jobs beyond U.S. borders; however, opportunities in service occupations have become more abundant and diverse. While this recession halted job growth, employment estimates from the Bureau of Labor Statistics show fewer net job losses nationwide in financial, professional, and technical service sectors than in manufacturing and construction.

Finance and Insurance

- Banks & Investment Firms
- Insurance Carriers, Agents, Brokers
- Accounting
- Financial Planning Services
- Customer Care Centers

While the Great Recession has affected nearly every sector of the economy, financial services, particularly banking and insurance, has experienced a high level of turmoil, uncertainty, and reconfiguration in the last two years. Bank closures have devastated many communities nationwide, and consolidation continues to restructure the finance and insurance sectors. Hundreds of thousands have lost their jobs, and millions of families have seen their accumulated wealth disappear. The ways in which the financial services sector will change and adapt to an entirely different environment going forward are just beginning to be fleshed out. However, this sector has performed well in Central Iowa over the last five years, experiencing overall employment growth amidst such a dire outlook globally. This speaks to the region's existing strength in this target, which is due to many factors, including company mix and sector diversity.

What is clear is that Central Iowa's existing cluster of activity in Finance and Insurance makes it the largest employer and the most concentrated sub-sector in the region. It was second only to health care in terms of job creation over the most recent five year period in Central Iowa. Major employers like Wells Fargo & Co. (the region's largest employer with over 11,900 workers), Principal Financial Group, Nationwide/Allied Insurance, Aviva, Marsh, and Wellmark Inc. have significant operations in the region and employ thousands of workers. Strategic activities related to this target will focus on retaining and expanding these jobs, with only the highest value regional headquarters and offices pursued for relocation.

Central Iowa continues to be an attractive location for national and regional finance and insurance headquarters as well as administrative offices and customer care centers, providing employment for workers at varied skill levels. This target also creates opportunities for talented local graduates and young professionals to remain in the region, adds to the area's civic capacity, and provides a career ladder from quality entry-level positions to "C-level" opportunities, important to retention and attraction of top talent.

The **Finance and Insurance** target includes a spectrum of service banks; securities, commodities, and other investment firms; and insurance carriers, agents, and brokers; and financial planners.

- Banks and Investment Firms: Banks are involved with accepting customer deposits and making mortgage, automobile, and real estate loans, and investing in securities while investment firms are engaged with the underwriting, originating, and trading of securities. It is important to note that despite global losses in this sector during the Great Recession, this large segment has been a stable source of employment growth in Central Iowa.
- Insurance Carriers, Agents, and Brokers: This sector covers a wide array of services relating to insurance coverage including underwriting and issuance of insurance policies, and facilitation and investigation of individual and employee benefits and claims.
- Accounting: The accounting sector is composed of general accounting, tax preparation, bookkeeping, auditing, and payroll services. It also covers the development of accounting systems.
- Financial Planning Services: Financial planners assist their clients in meeting their financial goals by providing investment advice and portfolio management.
- Customer Care Centers: Customer care centers and inbound call centers provide value-added services above and beyond the “typical” call center position and therefore pay higher average wages. Customer care staff require higher-level skills to manage customer complaints, concerns and issues and can frequently “up-sell” the customer to new products and services.

PEOPLE: OCCUPATIONAL ANALYSIS

Of the 322,000 workers in Greater Des Moines, 83,310 are employed in core occupations relevant to the Finance and Insurance target. In other words, over a quarter of the region’s workers exercise the skills needed to support this target. As shown in the following tables, 59 percent of the evaluated occupations offer average annual wages that exceed the region’s May 2009 average annual wage of \$42,120. Forty-eight percent of the occupations examined have both location quotients of 1.0 or greater and average annual wages that exceed the regional average wage. The high-paying occupations highly concentrated in Greater Des Moines include actuaries; auto damage insurance appraisers; claims adjusters, examiners, and investigators; compensation benefits and job analysis specialists; credit analysts; financial analysts; financial examiners; and insurance underwriters.

Finance and Insurance Occupational Target, Greater Des Moines, May 2009

Occupation	Des Moines MSA			U.S.
	Employment	Location Quotient	Average Annual Wage	Average Annual Wage
Total, all Occupations	322,000	1.00	\$42,120	\$43,460
Customer Service Representatives	8,630	1.59	\$30,150	\$32,410
Office Clerks General	7,490	1.08	\$29,880	\$27,700
Bookkeeping Accounting and Auditing Clerks	4,910	1.13	\$34,390	\$34,750
Business Operations Specialists All Other	3,390	1.33	\$57,600	\$65,960
First-Line Supervisors/Managers of Office and	3,230	0.95	\$50,290	\$49,990
Claims Adjusters Examiners and Investigators	3,120	4.62	\$50,970	\$58,780
Accountants and Auditors	3,070	1.13	\$62,670	\$67,430
General and Operations Managers	2,980	0.72	\$111,030	\$110,550
First-Line Supervisors/Managers of Retail Sales Workers	2,950	1.03	\$38,890	\$39,130
Receptionists and Information Clerks	2,680	1.03	\$25,650	\$26,010
Management Analysts	2,500	1.84	\$67,670	\$84,650
Financial Managers	2,160	1.77	\$105,210	\$113,730
Loan Interviewers and Clerks	2,100	4.36	\$31,830	\$34,670
Sales Representatives Services All Other	2,020	1.51	\$52,100	\$59,250
Insurance Claims and Policy Processing Clerks	1,790	3.08	\$34,210	\$35,740
Loan Officers	1,720	2.34	\$59,330	\$63,210
Bill and Account Collectors	1,640	1.65	\$30,320	\$32,560
Tellers	1,410	0.99	\$25,500	\$24,780
Billing and Posting Clerks and Machine Operators	1,350	1.11	\$33,560	\$32,900
Insurance Underwriters	1,230	5.07	\$60,590	\$63,330
Financial Analysts	1,220	2.10	\$67,290	\$85,240
Telemarketers	1,210	1.60	\$25,030	\$24,760
Managers All Other	1,180	1.30	\$80,180	\$99,100
Administrative Services Managers	1,070	1.78	\$82,580	\$81,530
Insurance Sales Agents	1,060	1.32	\$73,500	\$61,330
Securities Commodities and Financial Services Sales	940	1.40	\$67,310	\$91,390
Training and Development Specialists	920	1.82	\$50,550	\$55,310
Computer and Information Systems Managers	890	1.26	\$105,810	\$120,640
Counter and Rental Clerks	860	0.84	\$27,510	\$24,680
Sales Managers	840	1.04	\$102,150	\$111,570
First-Line Supervisors/Mgrs of Non-Retail Sales Workers	740	1.15	\$83,650	\$79,610
Compliance Officers Except Agriculture Construction	730	1.19	\$54,700	\$55,100
Order Clerks	630	1.13	\$35,150	\$29,890
Compensation Benefits and Job Analysis Specialists	620	2.25	\$50,960	\$58,520
Marketing Managers	610	1.46	\$103,070	\$120,070
Cost Estimators	600	1.23	\$55,450	\$61,190
Chief Executives	590	0.80	\$171,790	\$167,280
Human Resources Training and Labor Relations	590	1.09	\$60,690	\$59,070
Employment Recruitment and Placement Specialists	560	1.15	\$48,340	\$54,530
Personal Financial Advisors	540	1.47	\$69,900	\$94,180
Office Machine Operators Except Computer	520	3.00	\$27,930	\$28,060

Source: U.S. Bureau of Labor Statistics.

Finance and Insurance Occupational Target, Greater Des Moines, May 2009, cont'd

SOC code	Occupation	Des Moines MSA			U.S.
		Employment	Location Quotient	Average Annual Wage	Average Annual Wage
	Total, all Occupations	322,000	1.00	\$42,120	\$43,460
439021	Data Entry Keyers	490	0.82	\$27,970	\$28,000
434161	Human Resources Assistants Exc. Payroll & Timekeeping	480	1.20	\$37,050	\$37,840
439011	Computer Operators	460	1.97	\$35,790	\$37,540
413011	Advertising Sales Agents	400	1.06	\$40,390	\$53,190
132041	Credit Analysts	390	2.33	\$58,440	\$67,230
132099	Financial Specialists All Other	380	1.00	\$57,200	\$64,810
419099	Sales and Related Workers All Other	380	1.10	\$43,900	\$41,840
434199	Information and Record Clerks All Other	380	0.73	\$34,460	\$36,300
132061	Financial Examiners	340	5.30	\$75,800	\$79,070
439199	Office and Administrative Support Workers All Other	340	0.52	\$24,030	\$31,960
433051	Payroll and Timekeeping Clerks	290	0.62	\$38,710	\$36,600
434011	Brokerage Clerks	240	1.56	\$37,320	\$42,750
434141	New Accounts Clerks	240	1.19	\$37,540	\$31,490
152011	Actuaries	200	4.52	\$100,200	\$97,450
132071	Loan Counselors	170	2.27	\$36,870	\$40,930
113041	Compensation and Benefits Managers	140	1.59	\$84,350	\$95,230
113049	Human Resources Managers All Other	140	0.90	\$109,710	\$105,510
132031	Budget Analysts	130	0.87	\$67,160	\$69,240
434041	Credit Authorizers Checkers and Clerks	130	0.92	\$31,400	\$33,700
419031	Sales Engineers	120	0.68	\$112,160	\$90,540
113042	Training and Development Managers	90	1.25	\$85,000	\$94,360
131032	Insurance Appraisers Auto Damage	90	3.33	\$53,620	\$56,180

Source: U.S. Bureau of Labor Statistics.

- ✓ The top three occupations relevant to this target, in terms of employment, are support roles: customer service representatives, general office clerks, and bookkeeping, accounting, and auditing clerks. Together, these occupations employ over 21,000 workers in Greater Des Moines. While these occupations often pay comparatively lower wages, they provide opportunities for lower-skilled workers and for new graduates.
- ✓ The seven occupations with the highest location quotients are financial examiners (5.30); insurance underwriters (5.07); claims adjusters, examiners, and investigators (4.62); actuaries (4.52); loan interviewers and clerks (4.36); auto damage insurance appraisers (3.33); and insurance claims and policy processing clerks (3.08). There are 8,870 Greater Des Moines workers employed in these seven occupations. It is important to note that job concentrations in this target are distributed throughout the wage spectrum, indicating that the region provides job opportunities for workers of varied skill sets.
- ✓ The five occupations with the highest wages are chief executives (\$171,790), sales engineers (\$112,160), general and operations managers (\$111,030), all other human resources managers (\$109,710), and computer and information

systems managers (\$105,810). Of these occupations, only computer and information systems managers have a location quotient greater than 1.0.

Finance and Insurance Occupational Target, Central Iowa, May 2009

SOC code	Occupation	Des Moines + Ames MSA			U.S.
		Employment	Location Quotient	Average Annual Wage	Average Annual Wage
	<i>Total, all Occupations</i>	364,090	1.00	\$41,955	\$43,460
110000	Management Occupations	17,870	1.05	\$92,461	\$102,900
130000	Business and Financial Operations Occupations	25,330	1.50	\$58,139	\$65,900
410000	Sales and Related Occupations	40,240	1.05	\$36,831	\$36,020
430000	Office and Administrative Support Occupations	66,500	1.07	\$32,971	\$32,990

Source: U.S. Bureau of Labor Statistics.

- ✓ When the Ames MSA is factored into the analysis, occupational categories all have location quotients of greater than one. Business and Financial Operations Occupations (1.50) also has an annual average wage greater than the regional average of \$41,955.

Workforce Development

The quality of a region's workforce is a very important factor in a company's decision on where to locate its operations and has a direct relationship to the capacity of the region's training institutions. Therefore, it makes sense that the presence and availability of adequate educational programs that effectively prepare the future workforce to meet the needs of existing and prospective companies is vital to the growth and sustainability of any target cluster.

Because it is indicative of a region's ability to train its existing workforce and potential future employees, prospective employers considering an expansion or relocation almost always examine and scrutinize the availability of good educational programs. Components of the Finance and Insurance cluster are highly sensitive to the availability of well-educated talent and/or workers with professional customer service skills.

Many of the occupations in the Finance and Insurance target cluster require a high degree of financial literacy, as well as a solid understanding of legal requirements and mathematical skills. It is therefore imperative to have strong higher education programs in the financial and professional services area that will prepare a continuous pipeline of talent to transition into the local workforce. Additionally, workforce development resources geared toward customer service training can help meet demands for some entry-level service positions.

According to the National Center for Education Statistics, 71 percent, or 11,929, of degrees and certificates awarded in Central Iowa between 2005 and 2009 that support the Finance and Insurance target are business, management, marketing, and related support services degrees. Sixty-seven percent of degrees in this discipline are bachelor's level, and 17 percent are associate's level.

**Central Iowa Degrees and Certificates Awarded in Finance and Insurance Disciplines,
2005-2009**

<i>Major</i>	<i>Certificate below the baccalaureate</i>	<i>Associate</i>	<i>Bachelor</i>	<i>Certificate above the baccalaureate</i>	<i>Master</i>	<i>Doctoral/Professio nal Degree</i>	<i>Total</i>
Business, management, marketing, and related support services	720	2,039	7,927	11	1,226	6	11,929
Communication, journalism, and related programs	-	-	2,084	-	69	-	2,153
Communications technologies/technicians and support services	6	81	27	-	-	-	114
Computer and information sciences and support services	65	316	495	1	177	14	1,068
Legal professions and studies	41	228	141	112	-	445	967
Mathematics and statistics	-	-	355	-	176	47	578
Grand total	832	2,664	11,029	124	1,648	512	16,809

Source: National Center for Education Statistics, IPEDS Database

Note: Included in this analysis are all two and four-year public and private, not-for-profit colleges and universities in the Central Iowa region.

- Iowa State University's College of Business is ranked 62nd by *U.S. News & World Report*. Students have a wide array of majors from which to choose, as well as internship opportunities.
 - The University's Department of Mathematics offers an undergraduate major in Mathematics plus an application area in Actuarial Science.
 - Iowa State also has one of the highest rated Statistics programs in the country.
- Drake University offers degree programs in: Accounting; Actuarial Science; Economics (Quantitative); Entrepreneurial Management; Finance; General Business; and International Business;
 - The University's MBA program was ranked as the best local MBA program in 2008 and 2009 by the *Des Moines Business Record*. The University of Iowa and Iowa State University were runners up.
- Central College in Pella offers the following majors: Accounting; Actuarial Science; Business management (Administration, Economics, Finance, Marketing); Computer science; Economics; Information systems; International management; Mathematics; and Mathematics/computer science.
- Simpson College in Indianola offers the following majors: Accounting; Economics; International Management; Management; Marketing; Human Resources Management; Integrated Marketing Communication; Computer Science; Computer Information Systems; and Mathematics.
- Grand View University in Des Moines offers programs in the following degree areas: Accounting; Applied Mathematics; Business Administration – Agricultural Business; Business Administration – Finance; Business Administration – Human Resource; Business Administration – Management; Business Administration – Marketing; Business

Administration – Real Estate; Management Information Systems – Business Analyst; Management Information Systems – Information Technology; and Organizational Studies – Business.

- In addition to four-year programs and higher degree programs, Des Moines Area Community College offers two-year associate degree programs and certificate programs that provide entry-level skills to future professionals as well as a DMACC Business Resources center that provides consulting and training to businesses. Graduating students from DMACC are also important assets for existing and potential companies in the Central Iowa region. Two-year colleges also work closely and collaborate with local employers to provide more specific, targeted training programs, thus helping to provide them with workers for future operations.

PROSPERITY: BUSINESS SECTOR ANALYSIS

The Finance and Insurance target sector continues to be a major component of the regional economy. Wells Fargo and Co. is the region's largest employer, with 11,900 workers in the region alone. Principal Financial Group, Nationwide/Allied Insurance, Aviva, Marsh, ING, and Wellmark Inc. have major operations in the region and employ thousands of workers. Other top employers in the sector include: ADP, American Enterprise Group, ARAG Group, Citi Cards, EMC, FBL Financial Group, GuideOne Insurance, Holmes Murphy and Associates, Homesteaders Life, John Deere Financial, Marsh, MetLife, NCMIC Group, Sammons Financial Group, and the IMT Group.

The following table shows the region's employment and wages for the Finance and Insurance target business sectors in the second quarter of 2010. There are nearly 54,000 jobs in Finance and Insurance-specific sectors, representing 13.1 percent of all jobs in the region. Many jobs in this target pay significantly higher than the region's second quarter 2010 average annual wage of \$41,655. In fact, the target's average annual wage is \$60,427, or 45 percent higher than the regional average annual wage. The target has also remained resilient throughout the Great Recession. While the region experienced growth of 1.1 percent between the second quarters of 2005 and 2010, the finance and insurance sector experienced an overall employment increase of 9.3 percent, and the accounting and bookkeeping services subsector experienced job growth of 20.7 percent.

Central Iowa Finance and Insurance Target by business subsector, 2Q 2010

Industry Code	Industry Title	2Q2010 Emp	Location Quotient	2010 Avg Annual Wage	1-Year Emp % Change	5-Year Emp % Change	US 5-Yr Emp % Change	1-Year AAW % Change	5-Year AAW % Change	US 5-Yr AAW % Change
	Total Across All Sectors	410,165	1.00	\$41,655	-1.4%	1.1%	-2.5%	3.2%	15.7%	15.1%
52	Finance and Insurance	49,269	2.81	\$62,765	-0.4%	9.3%	-6.7%	6.1%	20.9%	16.9%
52411	Direct life and health insurance carriers	12,961	6.63	\$71,177	-1.3%	-1.2%	-3.5%	7.2%	29.4%	11.9%
52211	Commercial banking~	11,799	2.85	\$48,631	n/a	n/a	0.7%	n/a	n/a	18.0%
52412	Direct insurers, except life and health~	6,035	3.50	\$64,434	n/a	n/a	-10.2%	n/a	n/a	11.6%
52421	Insurance agencies and brokerages	4,250	2.10	\$55,405	0.2%	12.9%	-2.3%	3.0%	12.1%	11.5%
52231	Mortgage and nonmortgage loan brokers	2,402	12.55	\$40,577	0.6%	396.9%	-57.7%	-0.8%	-30.9%	5.3%
52222	Sales financing	2,271	8.66	\$58,400	-0.5%	-29.4%	-23.4%	7.0%	1.9%	16.9%
52232	Financial transaction processing and clearing~	1,017	2.97	\$49,819	n/a	n/a	18.8%	n/a	n/a	18.2%
52429	Other insurance related activities	982	1.31	\$59,213	-0.3%	-1.2%	5.5%	4.4%	29.6%	13.6%
52213	Credit unions~	849	1.18	\$37,635	n/a	n/a	5.7%	n/a	n/a	18.9%
52312	Securities brokerage	486	0.55	\$89,975	0.1%	-8.8%	-5.4%	5.7%	16.4%	44.2%
52393	Investment advice	318	0.74	\$51,792	0.1%	96.1%	23.3%	4.9%	-13.2%	17.2%
52392	Portfolio management	313	0.74	\$91,525	0.0%	81.4%	18.7%	13.1%	3.6%	15.3%
52212	Savings institutions~	311	0.54	\$49,832	n/a	n/a	-23.8%	n/a	n/a	0.4%
52314	Commodity contracts brokerage	93	2.34	\$119,421	n/a	n/a	-9.7%	n/a	n/a	28.7%
52311	Investment banking and securities dealing	73	0.15	\$166,397	-0.1%	-55.6%	-10.3%	39.6%	72.0%	36.1%
52511	Pension funds	53	0.92	\$55,589	n/a	n/a	-10.1%	n/a	n/a	-4.1%
5614	Business support services~	2,459	0.96	\$26,999	n/a	n/a	5.0%	n/a	n/a	11.1%
54121	Accounting and bookkeeping services	2,186	0.77	\$45,356	0.4%	20.7%	3.5%	-12.6%	-3.5%	14.1%

Source: U.S. Bureau of Labor Statistics, unless noted. See Methodology for details.

~ Decision Data Estimate

- ✓ The largest subsectors in the region in terms of employment are also highly concentrated and provide average annual wages higher than the regional average: direct life and health insurance carriers (12,961), commercial banking (11,799), and direct insurers except life and health, including property and casualty insurance and title insurance (6,035). Although the direct life and health insurance carriers subsector experienced a job loss of 1.2 percent over the five year period examined, it has maintained one of the highest concentrations in the region, with a location quotient of 6.63.
- ✓ The top five subsectors with the highest concentrations in the Central Iowa region are mortgage and nonmortgage loan brokers (12.55), sales financing (8.66), direct life and health insurance carriers (6.63), direct insurers except life and health (3.50), financial transaction processing and clearing (2.97), and commercial banking (2.85). Each of these subsectors, except mortgage and nonmortgage loan brokers (\$40,577), offer annual average wages considerably higher than the regional average.
- ✓ The subsectors with the highest annual average wages are investment banking and securities dealing (\$166,397), commodity contracts brokerage (\$119,421), portfolio management (\$91,525), and securities brokerage (\$89,975). Each of these subsectors employ less than 500 workers, and only one—commodity contracts brokerage—has a location quotient greater than one.
- ✓ There are three subsectors that provide annual earnings less than the second quarter 2010 regional average of \$41,655: mortgage and nonmortgage brokers

(\$40,577), which employs 2,402 workers; credit unions (\$37,635), which employs 849 workers; and business support services (\$26,999), which employs 2,459 workers.

PLACE: CENTRAL IOWA'S DYNAMICS

The sheer presence of so many large Finance and Insurance employers in Greater Des Moines and the active roles many executives of these firms play in regional efforts such as committees, councils and boards running the gamut of public, private and non-profit entities means that just about any prominent volunteer group serves as a de facto networking opportunity for Finance and Insurance leaders. This dynamic also applies to membership organizations like the Greater Des Moines Partnership's Young Professionals Connection and other groups that bring together large numbers of local adults.

More formally, the following entities support Finance and Insurance employers in Central Iowa:

- The **Kelly Insurance Center** at Drake University provides services to the insurance industry including: support for the Drake Insurance and Actuarial Science programs through scholarships and examination fee reimbursement; professional designation examination preparatory classes; continuing education classes for insurance producers; and the Archie R. Boe Distinguished Lectureship Series.
- The University of Iowa's **Emmett J. Vaughan Institute of Risk Management and Insurance** offers a Risk Management and Insurance Certificate to qualified practitioners. Since it began in 2006, the program has 107 graduates, including many in Greater Des Moines. The Institute has a ten-member advisory board of top insurance professionals.

The continuing growth of Finance and Insurance employment in Central Iowa is testament to the local and state business climate supportive of this cluster. Particular aspects of this climate include:

- One of the nation's lowest taxes on insurance premiums.
- No additional surtaxes or income taxes assessed on insurance carriers.
- A well-respected regulatory body, the Iowa Insurance Division, that has struck a balance between protecting customers' rights and ensuring state firms can remain competitive in the marketplace.
- No Iowa sales taxes on interstate or international telecommunications, computers or custom software.

Grow Iowa Values Financial Assistance Program provides direct assistance to companies in the form of loans and/or forgivable loans for projects focused on job-creation or retention and entrepreneurial efforts.

TARGET CLUSTER: INFORMATION SOLUTIONS

Justification

- Multiple successes in data center recruitment
- Low power costs and flexible incentives for data centers
- Long-held and emerging employment presence in publishing and online media
- Notable growth in start-up firms focused on electronic transaction and resource management
- Reportedly competitive availability of development capital
- Increasingly networked complement of technology entrepreneurs

Challenges

- Highly competitive national climate for data center recruitment
- State government discussing potential cutbacks in incentive programs
- Lack of "critical mass" of support infrastructure and mentors for technology entrepreneurship
- Top technology and IT talent often attracted to larger, more diverse and amenity-rich metropolitan areas
- Lack of external awareness of Central Iowa's strengths in this sector

Opportunities

- Increased support for technology networking organizations and events
- Continuing efforts to expand amenities in central-city districts attractive to technology companies and talent
- Potential to expand applications of virtual and augmented reality research and development for e-commerce processes
- Provision of additional degree options in IT-supportive programs and better retention of IT graduates
- More aggressive marketing of Central Iowa for IT firms and talent

Target Overview

The Information Solutions target includes two niche areas: **Data Storage and Support** and **E-Commerce** with a strong focus on business-to-business support, customer support, and opportunities for entrepreneurs.

Information Solutions continues to have an impact on businesses in virtually every industry sector. Information technology (IT) is projected to be a sustainable growth sector as businesses continue to rely on innovative software, hardware, Internet applications, data processing services, file digitization, and computer security solutions to drive the growth of their businesses. Nationally, there are already promising signs of a turnaround in IT as companies finally ramp up spending on new software, hardware and services. Furthermore, growth opportunities will continue to be born out of disruptive technologies, cyber security concerns, and other catalysts.



Published by CompTIA, a non-profit information technology trade association, the *IT Industry Business Confidence Index* is a survey of IT businesses that aggregates three metrics: confidence in the national economy, confidence in the IT industry, and confidence in one's own business. While the overall Index rose only 0.2 points in September, the six-month outlook for the IT industry saw a 5.0 point increase. The survey found that 53 percent of firms plan to invest in R&D or new revenue-generating initiatives and 37 percent of firms expect to expand their staff in the next six months. IT executives participating in the survey of nearly 400 firms indicated particular interest in security products and services and health care information technologies.

Cyber security and data storage are growing opportunity areas in IT. Data centers are a \$27 billion industry in the United States, and represent a \$100 billion global industry growing at more than 8.0 percent annually. With greater volumes of data being stored and transmitted each year, security breaches have also increased. According to a recent article in *USA Today*, "U.S. Internet crime losses reached \$560 million in 2009, up from \$265 million in 2008. Globally, a recent study by the Computing Technology Industry Association, a non-profit trade group, found that 63 percent of large organizations surveyed in 10 nations experienced at least one security incident in the past 12 months, with 45 percent of those incidents classified as serious." While the implications of such issues are serious for businesses and consumers alike, these trends point to growth opportunities within Information Solutions.

¹ "Security needs drive cyberforensics industry," *USA Today*, November 23, 2010

Additionally, recent data from the National Venture Capital Association suggests that while overall venture capital (VC) investments nationwide have yet to rebound, many sectors germane to Information Solutions have seen increases in VC investments over the one-year period. While they have not yet reached pre-recession levels, this is nonetheless promising in terms of capital available to firms looking to grow and innovate.

While some outsourcing within IT is expected for programmers and similar occupations, significant IT employment is expected to remain in the U.S. because installation, repair and maintenance, and even the development of new software applications or systems, computer networks, or hardware systems must often occur onsite. The Great Recession heightened cost-saving measures companies were willing to explore. While many IT firms explored outsourcing, most did not move forward due to the up-front capital needed to cover transaction costs, and those with existing contracts sought to re-negotiate at lower prices. These issues have been noted by many trade publications and business journals during 2009 and 2010.

The **Data Storage and Support** niche of Central Iowa's Information Solutions target encompasses three distinct areas: (1) data centers, also sometimes called "server farms," or network of computer servers housed in one location to streamline internal processes, (2) information assurance, which includes data security and consumer information protection, and (3) technical support services, which includes in-bound call centers to provide user support for products like printers, cell phones and smart phones, computers and software, and the like.

The **E-Commerce** niche encompasses software design and publishing, data processes and hosting, web design, graphic design, internet retail, and telecommunications carriers. This niche provides strong opportunities for entrepreneurship, reaching consumers in innovative ways using the Internet as a tool, and business-to-business support, including linkages between manufacturer and wholesaler and between wholesaler and retailer, within the Central Iowa region.

PEOPLE: OCCUPATIONAL ANALYSIS

Of the 322,000 workers in Greater Des Moines, 42,800 are employed in core occupations relevant to the Information Technology target. As shown in the following table, 72.2 percent of the evaluated occupations (covering 24,800 workers) offer average annual wages that significantly exceed the metro's May 2009 average annual wage of \$42,120. In fact, 58.3 percent of the occupations (covering 20,600 workers) examined have both location quotients of 1.0 or greater and average annual wages that exceed the Des Moines average wage. These occupations include all other media and communication workers, computer systems analysts, network and computer systems administrators, operations research analysts.

Information Solutions Occupational Target, Greater Des Moines, May 2009

SOC code	Occupation	Des Moines MSA			U.S.
		Employment	Location Quotient	Average Annual Wage	Average Annual Wage
Total, all Occupations		322,000	1.00	\$42,120	\$43,460
Data Storage and Support					
151051	Computer Systems Analysts	2,520	1.99	\$73,010	\$80,430
151031	Computer Software Engineers Applications	1,830	1.50	\$75,480	\$90,170
151071	Network and Computer Systems Administrators	1,700	2.04	\$69,280	\$70,930
151041	Computer Support Specialists	1,610	1.21	\$41,520	\$47,360
151021	Computer Programmers	1,440	1.59	\$70,970	\$74,690
113021	Computer and Information Systems Managers	890	1.26	\$105,810	\$120,640
151081	Network Systems and Data Communications Analysts	700	1.26	\$73,010	\$76,560
151099	Computer Specialists All Other	590	1.22	\$63,530	\$78,010
151032	Computer Software Engineers Systems Software	490	0.52	\$83,160	\$96,620
439021	Data Entry Keyers	490	0.82	\$27,970	\$28,000
439011	Computer Operators	460	1.97	\$35,790	\$37,540
151061	Database Administrators	390	1.46	\$74,480	\$74,290
419031	Sales Engineers	120	0.68	\$112,160	\$90,540
E-Commerce					
434051	Customer Service Representatives	8,630	1.59	\$30,150	\$32,410
435081	Stock Clerks and Order Fillers	4,110	0.89	\$23,370	\$23,460
131199	Business Operations Specialists All Other	3,390	1.33	\$57,600	\$65,960
111021	General and Operations Managers	2,980	0.72	\$111,030	\$110,550
413099	Sales Representatives Services All Other	2,020	1.51	\$52,100	\$59,250
419041	Telemarketers	1,210	1.60	\$25,030	\$24,760
439051	Mail Clerks & Mail Machine Operators Exc. Postal Svc	860	2.65	\$26,340	\$27,150
112022	Sales Managers	840	1.04	\$102,150	\$111,570
492022	Telecommunications Equipment Installers and Repairers Except Line Installers	760	1.62	\$53,060	\$52,990
271024	Graphic Designers	620	1.25	\$43,690	\$47,820
152031	Operations Research Analysts	620	4.13	\$53,200	\$75,370
112021	Marketing Managers	610	1.46	\$103,070	\$120,070
273041	Editors	590	2.28	\$61,390	\$58,440
273031	Public Relations Specialists	530	0.89	\$51,590	\$59,370
413011	Advertising Sales Agents	400	1.06	\$40,390	\$53,190
419099	Sales and Related Workers All Other	380	1.10	\$43,900	\$41,840
492094	Electrical and Electronics Repairers Commercial and Industrial Equipment	260	1.45	\$63,820	\$51,210
112031	Public Relations Managers	170	1.29	\$85,610	\$101,850
273099	Media and Communication Workers All Other	160	2.55	\$38,050	\$50,680
273042	Technical Writers	150	1.32	\$46,260	\$65,610
271021	Commercial and Industrial Designers	130	1.81	\$46,290	\$61,400
112011	Advertising and Promotions Managers	80	0.91	\$88,180	\$97,670
439031	Desktop Publishers	70	1.25	\$35,430	\$38,960

Source: U.S. Bureau of Labor Statistics.

- ✓ Top occupations, in terms of employment, in the Information Solutions target are customer service representatives (8,630), stock clerks and order fillers (4,110), all other business operations specialists (3,390), general and operations managers (2,980), and computer systems analysts (2,520).

- ✓ Highly concentrated occupations include operations research analysts (4.13), mail clerks and mail machine operators (excluding the postal service) (2.65), all other media and communication workers (2.55), editors (2.28), network and computer systems administrators (2.04), computer systems analysts (1.99), and computer operators (1.97).
- ✓ The highest earning occupations are largely managerial positions, including, general and operations managers (\$111,030), computer and information systems managers (\$105,810), marketing managers (\$103,070), and sales managers (\$102,150). The highest earning occupation of all examined is sales engineers (\$112,160), who specialize in assisting and advising customers about technologically and scientifically advanced products.
- ✓ The lowest earning occupations are support positions, including stock clerks and order fillers (\$23,370), telemarketers (\$25,030), and mail clerks and mail machine operations (\$26,340).

Information Solutions Occupational Target, Central Iowa, May 2009

SOC code	Occupation	Des Moines + Ames MSA		U.S.
		Employment	Location Quotient	Average Annual Wage
	Total, all Occupations	364,090	1.00	\$41,955
110000	Management Occupations	17,870	1.05	\$92,461
130000	Business and Financial Operations Occupations	25,330	1.50	\$58,139
150000	Computer and Mathematical Science Occupations	12,990	1.41	\$67,159
270000	Arts Design Entertainment Sports and Media	6,010	1.24	\$45,262
410000	Sales and Related Occupations	40,240	1.05	\$36,831
430000	Office and Administrative Support Occupations	66,500	1.07	\$32,971
490000	Installation Maintenance and Repair Occupations	13,960	0.98	\$41,958

Source: U.S. Bureau of Labor Statistics.

- ✓ When the Ames MSA is added to the analysis, all occupational categories show moderate to strong concentrations in the broader region. The Information Solutions target takes advantage of the skill sets of half of the region's working population (364,090). The target's average annual wage for the combined Des Moines and Ames region is \$46,636, and only two of seven categories offer wages lower than the combined geography's annual wage of \$41,955—sales and related occupations and office and administrative support occupations.

Workforce Development

The Information Solutions target cluster relies on very technical skills of all levels, depending on two-year and four-year institutions for training capacity. As this target area continues to grow, the region may need to address possible shortages in talent. From 2005 to 2009, computer and information sciences and support services majors comprised only 5.2 percent of all degrees conferred in the Central Iowa region. Communications technologies and technicians majors comprised only 0.6 percent.

**Central Iowa Degrees and Certificates Awarded in Information Solutions Disciplines,
2005-2009**

<i>Major</i>	<i>Certificate below the baccalaureate</i>	<i>Associate</i>	<i>Bachelor</i>	<i>Certificate above the baccalaureate</i>	<i>Master</i>	<i>Doctoral/Professio nal Degree</i>	<i>Total</i>
Business, management, marketing, and related support services	720	2,039	7,927	11	1,226	6	11,929
Communication, journalism, and related programs	-	-	2,084	-	69	-	2,153
Communications technologies/technicians and support services	6	81	27	-	-	-	114
Computer and information sciences and support services	65	316	495	1	177	14	1,068
Engineering technologies/technicians	24	187	-	-	-	-	211
Engineering	-	31	3,994	-	866	208	5,099
Grand total	815	2,654	14,527	12	2,338	228	20,574

Source: National Center for Education Statistics, IPEDS Database

Note: Included in this analysis are all two and four-year public and private, not-for-profit colleges and universities in the Central Iowa region.

- Iowa State University offers a number of programs that can supply graduates to Information Solutions firms. Among these are:
 - The University has one of the largest Information Assurance degree programs in the nation. While primarily focused at the graduate level, there are also options for undergraduate students. Graduate courses can also be accessed online.
 - The Graphic Design Program at Iowa State University offers the professional Bachelor of Fine Arts in Graphic Design degree, as well as the Bachelor of Fine Arts in Graphic Design with a Digital Media concentration. The program also offers Master of Arts degrees in Graphic Design and Environmental Graphic Design, and a Master of Fine Arts in Graphic Design.
 - Bachelors, Masters and PhDs are available in Computer, Electrical and Software Engineering. Core areas of graduate study include: computing and networking systems; secure and reliable computing; software systems; systems and controls; and VLSI.
 - The Management Information Systems (MIS) program is designed to provide students with an educational foundation preparing them as information system professionals.
 - The interdepartmental graduate major in Human Computer Interaction (HCI) provides advanced education and training while fostering research excellence in HCI at ISU, offering three graduate program degrees, a Masters, PhD and online certificate.
 - Journalism and mass communication students can take Bachelors and Masters courses in reporting and writing, design editing, public relations, photojournalism, science communication, multimedia production, and magazine publishing.

- Drake University offers degree programs in: Advertising (management); Electronic Media; Graphic Design; Information Systems; Journalism; Magazines; Marketing; and News (Internet).
- Grand View University offers degrees in: Applied Mathematics; Computer Science (Computer Information Systems, Numerical Computing, Software Development); Digital Media Production; Graphic Design; Graphic Journalism; Management Information Systems – Information Technology; and Mass Communication.
- Central College offers degrees in: Communication studies; Computer science (Computational science); Information systems; and mathematics/computer science.
- Simpson College offers degrees in: Graphic Design; Pre-Engineering; Multi-media Journalism; Integrated Marketing Communication; Computer Science; and Computer Information Systems.
- Marshalltown Community College offers programs in e-Commerce; Web Page Development; and Management Information Systems (MIS).
- DMACC offers certificates and degrees in Computer Applications; Computer Languages; Digital Publishing; Database Specialists; e-Commerce Design; and Information Technology Network Administration.

PROSPERITY: BUSINESS SECTOR ANALYSIS

In the highly competitive national climate for data center recruitment, Central Iowa has had success attracting these firms that provide consumers as well as other businesses with information assurance, technical support, and data hosting. Recent data center announcements in Greater Des Moines include Team Companies, which has constructed the first phase of a \$45 million data center in Waukee; Iowa Network Services, which opened a 16,000 square foot co-location center in West Des Moines; and Microsoft, which is currently constructing a \$100 million data center in West Des Moines.

Central Iowa is well positioned to advance growth prospects in *E-Commerce*, both for startups and established companies. The region has a number of startups and established companies with strong projected growth potential. Examples are:

- Firms specializing in focused banking and money transfers are Dwolla, which allows users to share money through social networks without immediate banking information, and SmartyPig, an online savings account manager that allows users to save money for specific goals in a fun yet insured manner.
- BitMethod builds applications to connect companies to the web, desktop, mobile, social media, and the company's existing systems and services. The firm also provides consulting services to businesses to optimize their product integration.
- Companies such as CDS Global also specialize in helping businesses improve their technological interaction with customers. The region has

significant opportunities to support and encourage the opening and growth of these specialty internet commerce and services companies.

- A startup from former CDS Global employees, Geosync Global is a promising young Des Moines-based firm using augmented reality to merge the written and physical world with the benefits of the virtual world. The Des Moines-based business is working to leverage a smartphone application called Kooaba to attract business from retail, advertising, media and other industries.
- Another startup, Huxley-based Vision-I has patented software that helps optimize the collection and leveraging of transactional data. While there are opportunities to market the software to financial services, restaurant and hospitality firms, Vision-I will first focus on the nation's roughly 500,000 retailers that use PIN pads to process transactions.
- CustomerVision supports organizations by incorporating Web 2.0 technologies like enterprise wikis, blogs, widgets, mashups, social networking, and RSS into user-based delivery environments.
- Lava Row assists companies with the use of emerging media and social technology to improve their communications and uncover new business opportunities. Services include strategic planning, training, consulting, research, project management, metrics reporting and implementation strategies.
- Innova, a Sigler Company, is a creative services firm with locations in Ames and Des Moines that offers marketing/strategy, public relations, graphic design, copywriting, interactive, corporate events and other services.
- Palisade Systems offers data-loss prevention services and email system security solutions. The firm has been in business for over 14 years.
- Spindustry Interactive in Des Moines offers web and e-business strategies; database architecture; search marketing strategies; social media consulting; mobile commerce applications; email marketing tools; and web hosting, among others.

In terms of media companies, the growing online portfolios of Des Moines-based Meredith, publisher of *Better Homes and Gardens* and numerous other lifestyle magazines, have been a key recent focus for growing the company's Internet-based business. In 2009, in addition to expanding its social media portfolio, Meredith purchased a stake in The Hyperfactory, a leading mobile marketing firm. It also joined with Conde Nast, Hearst, News Corporation, and Time Inc. to form a new venture to launch a digital storefront and portable reading experience. These moves are positioning the company to continue to compete in the age of online media.

Des Moines Register Media offers multi-platform, news and information and advanced marketing services. Des Moines Register Media publishes The Des Moines Register, Juice, five monthly lifestyles magazines, and web and mobile sites including DesMoinesRegister.com, HawkCentral.com, DesMoines.MomsLikeMe.com,

DesMoines.Metromix.com and RAGBRAI.com. National alignments and partners include apartments.com, careerbuilder.com, cars.com, homefinder.com, Yahoo! and others.

Business Publications produces the flagship publications Business Record and dsm Magazine along with niche and custom publications including: See Des Moines, economic development guides for area communities and chambers of commerce, the Book of Lists, the Business Record Daily business e-newsletter, Neighborhoods and Urban Living, INclusion diversity guide, Commercial Real Estate Guide, Commercial Real Estate Weekly e-newsletter and others.

The following table shows Central Iowa's employment and wages for the Information Solutions cluster business sectors in the second quarter of 2010. In Central Iowa, there are 18,442 jobs in Information Solutions-specific sectors, representing 4.5 percent of all jobs in the region and presenting a lucrative opportunity for the region. Many jobs in this target pay significantly higher than the regional second quarter 2010 average annual wage of \$41,655. In fact, the target's average annual wage is \$52,685, or 26.5 percent higher than the regional average annual wage. Despite the recession, Central Iowa's Information Solution target has grown by 7.4 percent since 2005 (based on available data).

- ✓ The Information Solutions target subsectors with the highest employment in the Central Iowa region are computer systems design and related services (3,085); data processing and related services (2,729); wired telecommunications carriers (2,582); electronic markets, agents, and brokers (2,505); business support services (2,459); and newspaper, book, and directory publishers (2,269). All of these subsectors, except business support services, offer average annual wages significantly higher than the regional average. However, only three of these seven sectors show a concentration in Central Iowa: data processing and related services (location quotient of 3.46); newspaper, book, and directory publishers (1.43); and wired telecommunications carriers (1.36).
- ✓ This target has much room for growth in that only three of its subsectors have location quotients greater than one: data processing and related services (location quotient of 3.46); newspaper, book, and directory publishers (1.43); and wired telecommunications carriers (1.36), all which offer annual wages significantly higher than the regional average.
- ✓ The highest-earning subsectors include electronic markets, agents, and brokers (\$73,655); software publishers (\$72,967); and computer systems design and related services (\$68,331). Two of these subsectors, electronic markets, agents, and brokers and computer systems design and related systems, employ a significant percentage of the target's workforce.

Central Iowa Information Solutions Target by business subsector, 2Q 2010

Industry Code	Industry Title	2Q2010 Emp	Location Quotient	2010 AAW	1-Yr Emp % Change	5-Yr Emp % Change	US 5-Yr Emp % Change	1-Yr AAW % Change	5-Yr AAW % Change	US 5-Yr AAW % Change
<i>Total Across All Sectors</i>		410,165	1.00	\$41,655	-1.4%	1.1%	-2.5%	3.2%	15.7%	15.1%
<i>Data Storage and Support</i>										
54151	Computer systems design and related services	3,085	0.67	\$68,331	7.8%	30.7%	20.8%	1.5%	9.5%	14.2%
5182	Data processing and related services~	2,729	3.46	\$42,852	n/a	n/a	-7.9%	n/a	n/a	21.8%
5614	Business support services~	2,459	0.96	\$26,999	n/a	n/a	5.0%	n/a	n/a	11.1%
3344	Semiconductor and other electronic component mfg~	215	0.18	\$26,720	n/a	n/a	-17.5%	n/a	n/a	21.9%
54199	All other professional and technical services	193	0.63	\$45,416	8.6%	177.9%	61.4%	1.5%	-8.8%	19.5%
54169	Other technical consulting services	156	0.31	\$56,484	36.0%	92.6%	81.8%	-8.0%	13.5%	18.3%
<i>E-Commerce</i>										
54151	Computer systems design and related services	3,085	0.67	\$68,331	7.8%	30.7%	20.8%	1.5%	9.5%	14.2%
5171	Wired telecommunications carriers~	2,582	1.35	\$48,519	-1.0%	14.4%	17.7%	0.5%	-12.1%	5.7%
4251	Electronic markets and agents and brokers	2,505	0.97	\$73,655	6.2%	10.6%	9.6%	8.5%	36.4%	20.9%
5111	Newspaper, book, and directory publishers	2,269	1.43	\$58,413	-10.1%	-19.2%	-25.4%	1.4%	24.0%	14.2%
54161	Management consulting services	1,193	0.48	\$56,485	-7.7%	-10.4%	12.8%	6.0%	17.7%	17.5%
5172	Wireless telecommunications carriers~	543	0.98	\$44,021	0.3%	16.8%	-9.2%	7.3%	17.1%	-3.1%
45411	Electronic shopping and mail-order houses~	223	0.30	\$27,702	n/a	n/a	5.7%	n/a	n/a	19.9%
51121	Software publishers	198	0.24	\$72,967	-10.3%	-4.3%	9.1%	10.7%	41.4%	23.1%
54199	All other professional and technical services	193	0.63	\$45,416	8.6%	177.9%	61.4%	1.5%	-8.8%	19.5%
54169	Other technical consulting services	156	0.31	\$56,484	36.0%	92.6%	81.8%	-8.0%	13.5%	18.3%
54143	Graphic design services~	135	0.71	\$41,585	n/a	n/a	-10.8%	n/a	n/a	10.3%

Source: U.S. Bureau of Labor Statistics, unless noted. See Methodology for details.
~ Decision Data Estimate

PLACE: CENTRAL IOWA'S DYNAMICS

Relatively affordable land, competitive incentives and low-cost power are strong selling points for data center prospects looking at Central Iowa. The region also has access to a number of broadband providers as well as two next-generation high-speed data-exchange networks, the National LambdaRail (NLR) and Internet2. NLR is a 12,000 mile, high-speed national network infrastructure that runs over fiber-optic lines owned and operated by the research and education community. The Iowa Health System is one of the not-for-profit entities connected to the NLR hub in central Iowa. An advanced network consortia, Internet2 connects over 60,000 educational, research, government, and community institutions over their advanced fiber-optic, dynamic circuit network. Iowa State University is the state's most prominent user of the Internet2 network.

To mitigate against potential outages caused by weather-related risks in Central Iowa, a 30,000-square-foot disaster-recovery center was constructed just east of Des Moines in Altoona. The EdgeBCC center was designed to withstand sustained 200 mile-per-hour winds and offers N+1 redundancy on every principal component.

Based at Iowa State University and elsewhere in the region, a host of organizations and research centers support existing and potential businesses in the Information Solutions target. These include:

- Headquartered in Des Moines, the **Technology Association of Iowa** is a statewide membership-based organization that works to address the needs

and challenges of technology organizations through efforts to influence public policy, enhance the state's talent pool for technology, connect business to resources, encourage collaborations, and promote Iowa's technology sector, its firms and organizations.

- Run by Iowa State University, the **Ames Laboratory** is a government-owned, contractor-operated research facility of the U.S. Department of Energy. The Laboratory's Applied Math & Computational Sciences program develops new programming paradigms for computer hardware, develops methods to optimize programming, computational quality and the use of scalable computing in scientific and engineering applications.
- **Iowa State University** has a number of on-campus research centers with applications to Information Solutions. Among these are:
 - The **Center for Computational Intelligence, Learning, and Discovery** (CCILD) pursues fundamental research and research-based advanced training in algorithmic models of intelligence, learning, and discovery. The results of CILD research impact data-driven science and decision making in: Security Informatics, Human Computer Interaction, Semantic Web, e-Government, and e-Commerce.
 - The ISU **Information Assurance Center** is a research center dedicated to administering graduate degrees, undergraduate student groups and events, and research facilities in information assurance, defined as the practice of managing information-related risks. The Center was one of the seven original National Security Agency-certified centers of academic excellence in information assurance education. The Center's research areas include: Intrusion Detection, Network Modeling, Wireless Communications, Identity Theft, and Cryptography, among others.
 - The new **Security and Software Engineering Research Center (S2ERC)** at Iowa State is a NSF-funded Industry/University Cooperative Research Center (I/U CRC) focused on promoting collaboration between industry and academia in the areas of security and software engineering. The vision S2ERC is to provide security and software engineering guidance in areas such as software requirements, design, maintenance, usability, reliability, testing, process improvement, vulnerability analysis, network security and system defense. S2ERC offers scalable membership levels to companies looking to add value to their product infrastructure and for assistance in decisions related to security products.
 - **Virtual Reality Applications Center (VRAC)** research revolves around developing computer interfaces that integrate virtual environments, wireless networking, pervasive computing and emerging user interface devices to optimize human creativity and productivity. VRAC conducts over \$20 million worth of ongoing contract research for industry and government agencies and has

research support for more than 50 faculty and 200 graduate and undergraduate students and post-doctoral researchers.

The State of Iowa has various incentives that create a “data center-friendly” environment, including a sales tax exemption on computers, computer equipment, electricity, and back-up fuel for large data center projects as well as a sales tax exemption on industrial machinery and computers used in the processing of data by commercial entities. In addition, MidAmerican Energy, which provides electric service in Greater Des Moines, can offer industrial customers electric rates as low as four cents per kilowatt hour.

More broadly as applied to the Information Solutions target, the State of Iowa offers:

- A **Research Activities Tax Credit** to offset the costs of Iowa companies’ increasing their research activity. Up to 6.5 percent of a participating company’s research expenditures in Iowa may be credited. If the company also participates in the High Quality Jobs Program or the Enterprise Zone Program, the tax credit increases to nine percent for firms with sales of \$20 million or more and to 16.5 percent for firms with sales under \$20 million.
- A **Demonstration Fund** that provides pre-seed capital awards of up to \$150,000 to encourage prototype and concept development activities by small and medium-sized Iowa companies in the advanced manufacturing, biosciences, and information technology industries.
- An **Information Technology Joint Venture Fund** that provides up to \$100,000 in financial assistance to encourage Iowa IT-user companies and IT producer companies to work on joint R&D programs to develop the next generation of IT products and services.

TARGET CLUSTER: HEALTH AND WELLNESS

Justification

- Health care one of Central Iowa's largest employment sectors with strong growth projections
- Recent development of state-of-the-art health care facilities in West Des Moines
- Presence of treatment capacity in key care specializations
- Osteopathic medical school and training programs for multiple health care occupations
- Efforts to improve wellness practiced at top local companies and said to be an emerging regional opportunity

Challenges

- Potential talent shortages in key occupational categories as economy improves and labor market tightens
- Space-constrained training capacity of health programs at DMACC
- Less research capacity than top biotechnology markets
- Often prohibitive costs of biotechnology product-development pipeline
- Implementation costs for wellness programs challenging in post-recessionary economy

Opportunities

- Continued expansion of existing health care facilities
- Application of innovative practices to launch companies and increase employment in health care sciences.
- Formalization of comprehensive regional wellness initiative
- Expansion of training capacity for wide range of health care occupations
- Commercial applicability of virtual reality technology to medical and bioscience processes
- Leveraging of plant sciences for opportunities in nutraceuticals

Target Overview

A new target for the region, Health and Wellness leverages existing employment, provides high wage jobs and opportunities for workers of all skill levels, and contributes to the enhancement of the region's overall quality of life. Divided into three niches, this target focuses on **Patient Care and Wellness**, **Biomedical Research**, and **Health Sciences**, encompassing the delivery and administration of health care as well as health innovations that advance the ease and efficiency of delivering services to patients, and enhance quality of life through the promotion of wellness.

The health care sector is a national asset that has shown resilience throughout the recession, growing jobs despite overall job losses and continuing to make significant direct and indirect GDP impacts on communities. In 2009, although the nation lost over 3.9 million jobs, the health care sector gained 266,700 jobs, one of only two sectors to gain jobs (the educational services sectors gained 13,800 jobs). It is the second leading employer within Central Iowa and the top generator of jobs for the region over the most recent five year period.

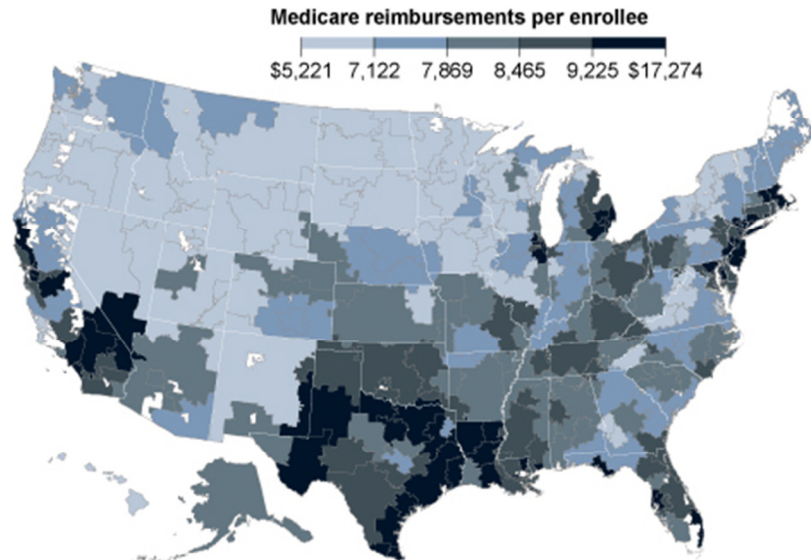
With the first wave of the Baby Boom generation entering retirement, the U.S. Census Bureau estimates that, between 2010 and 2030, the national proportion of residents ages 65 and over will increase from 13 to 20 percent. As the nation's overall population ages along with the Baby Boom generation, an increasing number of individuals will require medical services, hospital, nursing, and at-home care, and will purchase trillions of dollars worth of medications, medical devices, and other health related products. While federal reform efforts may change the nature of service delivery, demand for health care services and investments in life science research will continue to rise.

The U.S. Census Bureau recently reported a decline in the proportion of adults covered by private or employer-provided health insurance nationwide for the eighth year in a row. High costs are reducing access, hitting small businesses and people with chronic disease the hardest. Indeed, this is an issue that may threaten the sector's long-term performance and stability.

In 2008, the U.S. spent \$2.4 trillion on health care and, with average annual growth of 6.2 percent a year, this is expected to balloon to \$4.4 trillion by 2018, if left unchecked. The sector's annual increase in spending reflects a rate nearly three times that of inflation (2.7 percent). This is further complicated by great regional variations in the cost of health care service delivery. The following map from the Dartmouth



Atlas of Health Care shows Medicare reimbursements per enrollee. Most of the state, including the Greater Des Moines area, falls on the lowest ends of the cost spectrum.



Source: Dartmouth Atlas of Health Care as published in The New York Times, 2010

Kaiser Permanente estimates that 95 percent of financial resources devoted to health care in America are spent within the so-called “sick-care system” in hospitals, clinics, and doctors’ offices. Those at the top of the industry predict that wellness will continue to positively disrupt health care delivery though proactively reducing chronic disease rates with the use of portable technology devices to manage health performance and goals, therapy, nutrition education, and exercise programs. Businesses are increasingly supporting wellness programs as a way to lower health care premiums.

According to a 2008 survey by The ERISA Industry Committee (a nonprofit trade organization devoted to human resource and benefits management), the percentage of major U.S. corporations using financial incentives to promote employer-sponsored health and wellness programs rose from 62 percent in 2007 to 71 percent in 2008.

Niches within the Health and Wellness target include the following areas:

- Patient Care and Wellness: This niche includes hospitals; clinics; wellness centers; medical laboratories; senior care services; vocational therapy services; and fitness, life, and nutrition coaching. Greater Des Moines has the opportunity to market itself as a “healthcare destination” to attract outside monies to the region to access select services.
- Biomedical Research: This niche captures the human applications of the existing Biotechnology target and offers high wages and the potential for dynamic spin-off employment through technology transfer and research

commercialization. This niche provides a platform for optimizing the provision of health care through new services and health products.

- Health Sciences: This area represents the “business side” of health care. It involves the application of health innovation to the marketplace, including the digitization of health care data, pharmacy benefits management, and health care consulting focused on facets of the management of health care providers, such as financial operations and planning, internal hospital management, and strategy development.

PEOPLE: OCCUPATIONAL ANALYSIS

Over 28 percent, or 90,620, of the 322,000 workers in Greater Des Moines are employed in core occupations relevant to the Health and Wellness target. As shown in the following tables, this target adds value to the region’s economy, with 61.5 percent of the evaluated occupations (covering 52,970 workers) offering average annual wages that significantly exceed the metro’s May 2009 average annual wage of \$42,120. Of the occupations examined, 32 percent (covering 34,170 workers) examined have both location quotients of 1.0 or greater and annual wages that exceed the Greater Des Moines average wage.

**Health and Wellness Occupational Target: Patient Care and Wellness
Greater Des Moines, May 2009**

SOC code	Occupation	Des Moines MSA			U.S.
		Employment	Location Quotient	Average Annual Wage	Average Annual Wage
Total, all Occupations		322,000	1.00	\$42,120	\$43,460
Patient Care and Wellness, continued					
291111	Registered Nurses	6,260	0.98	\$55,890	\$66,530
311012	Nursing Aides Orderlies and Attendants	3,710	1.05	\$25,220	\$24,980
311011	Home Health Aides	1,650	0.70	\$23,810	\$21,620
319092	Medical Assistants	980	0.80	\$32,940	\$29,450
211021	Child Family and School Social Workers	960	1.40	\$39,160	\$43,540
292061	Licensed Practical and Licensed Vocational Nurses	960	0.53	\$38,190	\$40,900
119111	Medical and Health Services Managers	910	1.36	\$90,150	\$90,970
292052	Pharmacy Technicians	830	1.01	\$28,770	\$28,940
399031	Fitness Trainers and Aerobics Instructors	810	1.44	\$27,660	\$35,340
291051	Pharmacists	770	1.17	\$82,480	\$106,630
319094	Medical Transcriptionists	620	3.04	\$29,960	\$33,350
211015	Rehabilitation Counselors	580	2.09	\$28,950	\$34,710
292071	Medical Records and Health Information Technicians	570	1.36	\$32,290	\$33,880
291069	Physicians and Surgeons All Other	550	0.81	\$158,310	\$173,860
292034	Radiologic Technologists and Technicians	550	1.04	\$48,400	\$54,180
211023	Mental Health and Substance Abuse Social Workers	550	1.76	\$39,640	\$41,350
319091	Dental Assistants	500	0.69	\$37,140	\$34,000
292021	Dental Hygienists	480	1.12	\$64,870	\$67,860
291123	Physical Therapists	440	1.02	\$66,590	\$76,220
211093	Social and Human Service Assistants	430	0.51	\$27,680	\$29,880
119151	Social and Community Service Managers	420	1.50	\$63,120	\$61,240
291062	Family and General Practitioners	400	1.64	\$179,010	\$168,550
211012	Educational Vocational and School Counselors	400	0.65	\$50,770	\$55,030
319099	Healthcare Support Workers All Other	400	0.86	\$27,250	\$31,340
292041	Emergency Medical Technicians and Paramedics	330	0.61	\$38,420	\$33,020
211022	Medical and Public Health Social Workers	300	0.91	\$42,410	\$48,340
291127	Speech-Language Pathologists	280	1.02	\$58,260	\$68,350
194011	Agricultural and Food Science Technicians	250	5.49	\$35,410	\$36,850
211014	Mental Health Counselors	230	0.87	\$40,650	\$41,710
292081	Opticians Dispensing	230	1.53	\$28,440	\$34,790
211099	Community and Social Service Specialists All Other	210	0.78	\$33,760	\$40,530
251071	Health Specialties Teachers Postsecondary	190	0.58	\$84,510	\$103,340
291122	Occupational Therapists	190	0.79	\$59,980	\$70,680
211013	Marriage and Family Therapists	190	2.91	\$43,640	\$49,020
291071	Physician Assistants	180	0.95	\$80,780	\$84,830
291031	Dietitians and Nutritionists	180	1.37	\$50,390	\$53,230
211029	Social Workers All Other	180	1.00	\$43,470	\$50,470
291021	Dentists General	170	0.80	\$174,320	\$156,850
291126	Respiratory Therapists	150	0.57	\$46,900	\$54,200
193031	Clinical Counseling and School Psychologists	130	0.54	\$71,320	\$72,310
299099	Healthcare Practitioner and Technical Workers All	120	0.86	\$54,900	\$52,110
312021	Physical Therapist Assistants	120	0.76	\$37,960	\$48,590

Source: U.S. Bureau of Labor Statistics.

**Health and Wellness Occupational Target: Patient Care and Wellness
Greater Des Moines, May 2009, cont'd**

SOC code	Occupation	Des Moines MSA			U.S.
		Employment	Location Quotient	Average Annual Wage	Average Annual Wage
Total, all Occupations		322,000	1.00	\$42,120	\$43,460
Patient Care and Wellness, continued					
292032	Diagnostic Medical Sonographers	100	0.79	\$57,340	\$63,640
211011	Substance Abuse and Behavioral Disorder Counselors	100	0.52	\$43,410	\$40,420
533011	Ambulance Drivers and Attendants Except Emergency	100	2.07	\$30,360	\$23,140
299011	Occupational Health and Safety Specialists	90	0.70	\$58,580	\$64,200
292031	Cardiovascular Technologists and Technicians	90	0.76	\$55,790	\$49,730
519081	Dental Laboratory Technicians	90	0.90	\$47,330	\$37,690
211091	Health Educators	80	0.51	\$52,740	\$49,060
292051	Dietetic Technicians	80	1.32	\$27,060	\$28,530
291125	Recreational Therapists	70	1.29	\$36,030	\$41,270
519083	Ophthalmic Laboratory Technicians	70	0.93	\$28,460	\$29,880
291011	Chiropractors	60	0.93	*	\$80,390
291041	Optometrists	60	0.92	\$116,500	\$106,960
519082	Medical Appliance Technicians	60	1.77	\$57,110	\$38,590
251072	Nursing Instructors and Teachers Postsecondary	60	0.50	\$48,740	\$65,240
312011	Occupational Therapist Assistants	60	0.91	\$44,710	\$50,830
291129	Therapists All Other	40	1.21	\$57,120	\$54,400
251042	Biological Science Teachers Postsecondary	40	0.30	\$53,520	\$87,220
211019	Counselors All Other	40	0.53	\$43,260	\$44,400
131061	Emergency Management Specialists	40	1.24	\$41,360	\$56,900
312022	Physical Therapist Aides	40	0.37	\$30,380	\$24,990
291066	Psychiatrists	30	0.55	\$231,290	\$163,660
291121	Audiologists	30	0.97	\$59,680	\$66,850
291124	Radiation Therapists	*	*	\$76,670	\$77,340
319095	Pharmacy Aides	*	*	\$21,980	\$22,330

Source: U.S. Bureau of Labor Statistics.

- ✓ The top three occupations relevant to the Patient Care and Wellness niche, in terms of employment, are registered nurses (6,260); nursing aides, orderlies, and attendants (3,710); and home health aides (1,650). While registered nurses earn an average annual salary of \$55,890, the remaining two occupations offer average annual wages of much less than the regional average. According to the *Economic and Demographic Snapshot*, 27.7 percent of Central Iowa's residents are between the ages of 45 and 69, a larger proportion of the population than any other age group. As this group continues to age, quality elder care will become ever more important in the region. This could be an opportunity to become a leader in providing comprehensive care to the elderly as well as in gerontology research.
- ✓ The five occupations with the highest location quotients are agricultural and food science technicians (5.49), medical transcriptionists (3.04), marriage and family therapists (2.91), rehabilitation counselors (2.09), and ambulance drivers and attendants, except emergency (2.07). With the exception of

marriage and family therapists (\$43,640), these occupations have average annual wages less than the regional average of \$42,120.

- ✓ The five occupations with the highest wages are psychiatrists (\$231,290), family and general practitioners (\$179,010), general dentists (\$174,320), all other physicians and surgeons (\$158,310), and optometrists (\$116,500). Of these occupations, only family and general practitioners (1.64) have a location quotient greater than 1.0, indicating that the region is underserved.

Health and Wellness Occupational Target: Biomedical Research Greater Des Moines, May 2009

SOC code	Occupation	Des Moines MSA			U.S.
		Employment	Location Quotient	Average Annual Wage	Average Annual Wage
Total, all Occupations		322,000	1.00	\$42,120	\$43,460
Biomedical Research					
512092	Team Assemblers	1,460	0.59	\$28,910	\$28,840
151021	Computer Programmers	1,440	1.59	\$70,970	\$74,690
512099	Assemblers and Fabricators All Other	770	1.17	\$26,600	\$32,280
291051	Pharmacists	770	1.17	\$82,480	\$106,630
131023	Purchasing Agents Except Wholesale Retail and Farm	570	0.82	\$48,300	\$58,550
514041	Machinists	520	0.55	\$39,590	\$38,940
512041	Structural Metal Fabricators and Fitters	380	1.59	\$29,590	\$35,080
292011	Medical and Clinical Laboratory Technologists	280	0.68	\$54,010	\$55,620
292012	Medical and Clinical Laboratory Technicians	250	0.67	\$39,630	\$37,860
152011	Actuaries	200	4.52	\$100,200	\$97,450
292099	Health Technologists and Technicians All Other	140	0.72	\$34,510	\$42,180
512022	Electrical and Electronic Equipment Assemblers	130	0.27	\$29,900	\$30,690
192041	Environmental Scientists and Specialists Including Health	120	0.58	\$65,610	\$67,360
119041	Engineering Managers	110	0.25	\$100,720	\$122,810
514081	Multiple Machine Tool Setters Operators and Tenders	110	0.59	\$30,610	\$32,860
119121	Natural Sciences Managers	90	0.83	\$134,540	\$127,000
152041	Statisticians	60	1.14	\$64,120	\$75,220
499062	Medical Equipment Repairers	*	*	\$51,260	\$44,950
191022	Microbiologists	*	*	\$60,670	\$71,980
194021	Biological Technicians	*	*	\$34,280	\$41,140
194031	Chemical Technicians	*	*	\$33,930	\$43,900
194099	Life Physical and Social Science Technicians All Other	*	*	\$35,380	\$44,870
191042	Medical Scientists Except Epidemiologists	*	*	\$57,480	\$84,760

Source: U.S. Bureau of Labor Statistics. Data refers to May 2009.

- ✓ The occupations in this niche cover a wide array of fields—from research to manufacturing, and the supply chain of health innovation. The diversity within this niche allows the region to take advantage of the various skill sets of workers.
- ✓ The top three occupations relevant to the *Biomedical Research* niche (which includes medical devices), in terms of employment, are team assemblers

(1,460), computer programmers (1,440), all other assemblers and fabricators (770), and pharmacists (770). Besides team assemblers, these occupations are highly concentrated in the Des Moines metro area, as illustrated by location quotients of greater than one. While computer programmers and pharmacists earn average salaries greater than the regional average, assemblers and fabricators earn much less than the regional average wage.

- ✓ The three occupations with the highest wages are natural sciences managers (\$134,540), engineering managers (\$100,720), and actuaries (\$100,200). Only actuaries (4.52) have a location quotient greater than 1.0. It is important to note that actuaries have a high concentration in the region, primarily due to the high concentration of insurance companies in the area. However, this provides a great opportunity to take advantage of the established base of skills and knowledge in the region.

Health and Wellness Occupational Target: Health Sciences
Greater Des Moines, May 2009

SOC code	Occupation	Des Moines MSA			U.S.
		Employment	Location Quotient	Average Annual Wage	Average Annual Wage
Total, all Occupations		322,000	1.00	\$42,120	\$43,460
Health Sciences					
433031	Bookkeeping Accounting and Auditing Clerks	4,910	1.13	\$34,390	\$34,750
131199	Business Operations Specialists All Other	3,390	1.33	\$57,600	\$65,960
431011	First-Line Supervisors/Managers of Office and Administrative Support Workers	3,230	0.95	\$50,290	\$49,990
132011	Accountants and Auditors	3,070	1.13	\$62,670	\$67,430
111021	General and Operations Managers	2,980	0.72	\$111,030	\$110,550
151051	Computer Systems Analysts	2,520	1.99	\$73,010	\$80,430
131111	Management Analysts	2,500	1.84	\$67,670	\$84,650
113031	Financial Managers	2,160	1.77	\$105,210	\$113,730

Source: U.S. Bureau of Labor Statistics.

**Health and Wellness Occupational Target: Health Sciences
Greater Des Moines, May 2009, cont'd**

SOC code	Occupation	Des Moines MSA			U.S.
		Employment	Location Quotient	Average Annual Wage	Average Annual Wage
Total, all Occupations		322,000	1.00	\$42,120	\$43,460
Health Sciences, continued					
151031	Computer Software Engineers Applications	1,830	1.50	\$75,480	\$90,170
439041	Insurance Claims and Policy Processing Clerks	1,790	3.08	\$34,210	\$35,740
151071	Network and Computer Systems Administrators	1,700	2.04	\$69,280	\$70,930
433011	Bill and Account Collectors	1,640	1.65	\$30,320	\$32,560
151041	Computer Support Specialists	1,610	1.21	\$41,520	\$47,360
433021	Billing and Posting Clerks and Machine Operators	1,350	1.11	\$33,560	\$32,900
132051	Financial Analysts	1,220	2.10	\$67,290	\$85,240
119199	Managers All Other	1,180	1.30	\$80,180	\$99,100
113011	Administrative Services Managers	1,070	1.78	\$82,580	\$81,530
193021	Market Research Analysts	1,040	1.86	\$54,010	\$67,500
131073	Training and Development Specialists	920	1.82	\$50,550	\$55,310
113021	Computer and Information Systems Managers	890	1.26	\$105,810	\$120,640
436013	Medical Secretaries	720	0.62	\$28,750	\$31,450
151081	Network Systems and Data Communications Analysts	700	1.26	\$73,010	\$76,560
131072	Compensation Benefits and Job Analysis Specialists	620	2.25	\$50,960	\$58,520
152031	Operations Research Analysts	620	4.13	\$53,200	\$75,370
111011	Chief Executives	590	0.80	\$171,790	\$167,280
131079	Human Resources Training and Labor Relations	590	1.09	\$60,690	\$59,070
151099	Computer Specialists All Other	590	1.22	\$63,530	\$78,010
131071	Employment Recruitment and Placement Specialists	560	1.15	\$48,340	\$54,530
151032	Computer Software Engineers Systems Software	490	0.52	\$83,160	\$96,620
434161	Human Resources Assistants Except Payroll and Timekeeping	480	1.20	\$37,050	\$37,840
132041	Credit Analysts	390	2.33	\$58,440	\$67,230
151061	Database Administrators	390	1.46	\$74,480	\$74,290
132099	Financial Specialists All Other	380	1.00	\$57,200	\$64,810
434199	Information and Record Clerks All Other	380	0.73	\$34,460	\$36,300
132061	Financial Examiners	340	5.30	\$75,800	\$79,070
433051	Payroll and Timekeeping Clerks	290	0.62	\$38,710	\$36,600
113041	Compensation and Benefits Managers	140	1.59	\$84,350	\$95,230
113049	Human Resources Managers All Other	140	0.90	\$109,710	\$105,510
132031	Budget Analysts	130	0.87	\$67,160	\$69,240
113042	Training and Development Managers	90	1.25	\$85,000	\$94,360

Source: U.S. Bureau of Labor Statistics.

- ✓ The top occupations relevant to the *Health Sciences* niche, in terms of employment, are bookkeeping, accounting, and auditing clerks (4,910); all other business operations specialists (3,390); first-line supervisors/managers of office and administrative support workers (3,230); accountants and auditors (3,070); and general and operations managers (2,980). With the exception of bookkeeping, accounting, and auditing clerks, these occupations earn wages considerably higher than the regional average wage.

- ✓ The occupations with the highest location quotients are financial examiners (5.30), operations research analysts (4.13), insurance claims and policy processing clerks (3.08), credit analysts (2.33), and compensation benefits and job analysis specialists (2.25). With the exception of insurance claims and policy processing clerks (\$34,210), these occupations have average annual wages significantly greater than the regional average of \$42,120.
- ✓ The occupations with the highest wages are chief executives (\$171,790), general and operations managers (\$111,030), all other human resources managers (\$105,510), computer and information systems managers (\$105,810), and financial managers (\$105,210). It is important to note that many of these workers are likely employed in Finance and Insurance subsectors; however, the pool of talent is present in the region and can be leveraged.

Health and Wellness Occupational Target, Central Iowa, May 2009

SOC code	Occupation	Des Moines + Ames MSA			U.S.
		Employment	Location Quotient	Average Annual Wage	Average Annual Wage
	Total, all Occupations	364,090	1.00	\$41,955	\$43,460
110000	Management Occupations	17,870	1.05	\$92,461	\$102,900
130000	Business and Financial Operations Occupations	25,330	1.50	\$58,139	\$65,900
150000	Computer and Mathematical Science Occupations	12,990	1.41	\$67,159	\$76,290
190000	Life Physical and Social Science Occupations	4,940	1.35	\$56,521	\$65,660
210000	Community and Social Services Occupations	5,230	0.99	\$38,792	\$42,750
290000	Healthcare Practitioner and Technical Occupations	17,560	0.88	\$61,717	\$69,690
310000	Healthcare Support Occupations	9,470	0.87	\$27,297	\$26,710
430000	Office and Administrative Support Occupations	66,500	1.07	\$32,971	\$32,990

Source: U.S. Bureau of Labor Statistics.

- ✓ When the Ames MSA is included in the analysis, it is interesting to note that occupational categories specific to health occupations have location quotients less than 1.0. As expected, support occupations offer wages lower than the combined Des Moines and Ames average, as does the community and social services occupational category.

Workforce Development

The practice of medicine can be very demanding, with much educational preparation is required in order to gain admittance to a medical, nursing, or other related schools. Health care in America is only going to become more impacted as health reform potentially moves millions more into the health care system and American's continue to live longer. It is therefore important for Greater Des Moines to continue efforts to adequately prepare students to pursue successful careers in health care and to support the diversification and growth of the target to catalyze strengths beyond elder care. The following table shows the number of degrees conferred at Central Iowa

institutions of higher education in programs supporting the Health and Wellness target cluster.

**Central Iowa Degrees and Certificates Awarded in Health and Wellness Disciplines,
2005-2009**

<i>Major</i>	<i>Certificate below the baccalaureate</i>	<i>Associate</i>	<i>Bachelor</i>	<i>Certificate above the baccalaureate</i>	<i>Master</i>	<i>Doctoral/Professio nal Degree</i>	<i>Total</i>
Biological and biomedical sciences	-	18	1,790	-	216	132	2,156
Business, management, marketing, and related support services	720	2,039	7,927	11	1,226	6	11,929
Computer and information sciences and support services	65	316	495	1	177	14	1,068
Engineering technologies/technicians	24	187	-	-	-	-	211
Engineering	-	31	3,994	-	866	208	5,099
Family and consumer sciences/human sciences	35	100	535	-	143	47	860
Health professions and related clinical sciences	1,850	1,906	1,050	-	475	1,532	6,813
Physical sciences	-	-	405	-	71	108	584
Psychology	-	-	1,292	-	52	22	1,366
Social sciences	-	-	1,920	-	151	31	2,102
Grand total	2,694	4,597	19,408	12	3,377	2,100	32,188

Source: National Center for Education Statistics, IPEDS Database

Note: Included in this analysis are all two and four-year public and private, not-for-profit colleges and universities in the Central Iowa region.

The region has many educational programs supporting the Health and Wellness target and its niches. It is important to note, however, that although health-specific majors comprise over 21 percent of relevant degrees, business majors surpass this with 37 percent of degree completions. Additionally, only 6.5 percent of all degree completions were at the doctoral/professional degree level, the lowest percentage of degree levels examined except certificates above the baccalaureate level.

- Iowa State University offers a variety of bio-related bachelor, master, and doctoral degrees. ISU offers a Bachelor of Arts in Biological Pre-Medical Illustration. This program combines the medical and art world for students who want to become involved in the illustration aspect of the medical field.
 - Iowa State also offers degree programs in: Bioinformatics and Computational Biology; Chemical Engineering; Kinesiology and Health; Community Health; Microbiology; Molecular, Cellular & Developmental Biology; Gerontology; Genetics, Development and Cell Biology; Neuroscience; Toxicology; and Health/Fitness Management
- Grand View University offers degrees in fitness and wellness management as well as nursing. Simpson College and Drake University both offer general degrees in the biological and medical fields.

- Simpson College offers programs in Biology; Biochemistry; and Sport Science & Health Education
- Des Moines University is a post graduate medical school with 1,700 students that offers degree programs in osteopathic medicine, anatomy, biomedical sciences, podiatric medicine, physician assistant studies, physical therapy, post-professional physical therapy, public health and health care administration.
 - DMU students' pass rates on national exams and board certifications are consistently higher than those of similar institutions.
 - Twenty-three graduates from the 2010 osteopathic medicine class accepted internships at Central Iowa facilities.
- Central College offers pre-professional programs in all of the general medical fields including chiropractic, dentistry, medicine, nursing, and podiatric medicine.
- Mercy College of Health Sciences offers a variety of certificates and associates programs, as well as a bachelor degree in health science and in Nursing. Certificates include nuclear medicine technology, clinical laboratory science, and pharmacy technician (offered online).
- Iowa Health offers three programs under their Des Moines School of Radiologic Technology. The programs include radiologic technology certificate, online computed tomography, and limited radiologic technology.
- The Des Moines Area Community College offers a variety of options for degrees and certificates in health-related fields. The pre-medical field includes dental, pharmacy (joint with ISU), physical therapy, and physician's assistant. Other areas include nursing, optometric, paramedic, respiratory, and surgical technology. DMACC also offers certificates in nurse aid, paramedic specialist, and phlebotomy.
- Marshalltown Community College offers general programs in the medical field. Dentistry, medicine, nursing, pharmacy, and physical therapy are all offered as well as programs in medical and dental assisting.

PROSPERITY: BUSINESS SECTOR ANALYSIS

Top employers in the Health and Wellness target are regional hospitals Iowa Health–Des Moines and Mercy Medical Center–Des Moines; together, they employ over 11,800 workers. Other major services employers are Mary Greeley Medical Center, Evo Medical Solutions, and Pella Regional Health Center.

Primary Health Care, Inc. is a Des Moines-based nonprofit community health center serving the medically insured, uninsured and underinsured. The company also provides follow-up services, continuity of care, pharmacy assistance, case management and social work advocacy.

Broadlawns Medical Center is a publicly owned health care facility providing services for Polk County residents of all income levels. The Broadlawns campus comprises a number of care specializations offered by its 60-member physician practice, 300 on-staff physicians and 26 nurse practitioners. Broadlawns is nearly completion of phase one of a three-phase, multi-million-dollar modernization and expansion project.

Central Iowa is home to a number of Biomedical Research employers. Evo Medical Solutions based in Adel specializes in the manufacturing and distribution of respiratory products for treatment of all stages of respiratory diseases. Ankeny-based Embria Health Sciences develops and markets research-based natural ingredients to the global human nutrition market. MedCara Pharmaceuticals in Marshalltown is a biotechnology company that discovers, develops, and commercializes pharmaceutical products independently and with partners. MedCara's first product is Wart Peel™, a topical treatment that eliminates planter and common warts.

A number of Central Iowa biotech companies are located in Ames. Among these:

- Metabolic Technologies is a producer of biopharmaceuticals for the nutraceutical and cosmeceutical markets.
- NewLink Genetics is a biopharmaceutical company developing drugs and genomics solutions with a primary focus on cancer.
- Advanced Analytical Technologies provides applications to improve processes and accelerate research within the pharmaceutical, life science, and personal care/OTC markets.
- PK Biosciences is focused on providing research and diagnostic tools for drug discovery and therapeutic development for treatment of neurological and neurodegenerative diseases.

A fast-growing start-up company in the Health Sciences niche is BodyViz of Ames. Located at the Iowa State University Research Park in the Cyber Innovation Institute, BodyViz was recently awarded the Prometheus Award for Startup Company of the Year by the Technology Association of Iowa. BodyViz creates 3D MRI, CT scan visualizations that enable users to view and interact with patient data in a three-dimensional user interface. Another start-up at the ISU Research Park that spun out of the University's Virtual Reality Applications Center is iMed Studios, a firm that develops multimedia for clients in the medical and pharmaceutical industries.

The following table shows Central Iowa's employment and wages for the Health and Wellness target business sectors in the second quarter of 2010. In the Central Iowa, there are 62,345 jobs in Health and Wellness-specific sectors, representing 15.2 percent of all jobs in the region. Although the wage range in this target is wide—from \$17,906 to \$83,720—the average annual wage for the target is \$47,070, or 13 percent higher than the regional average annual wage. Nationwide, the health care sector as a whole has proved resilient throughout economic turmoil. Despite the recession, Central Iowa's Health and Wellness target has grown jobs by 15.1 percent and annual average wages have increased by 4.5 percent since 2005 (based on available data).

- ✓ Three of the largest five target subsectors in the *Patient Care and Wellness* niche are related to the care of the elderly and homebound: nursing care facilities (4,681), community care facilities for the elderly (3,055), and home health care services (2,009). Important to the wellness component of this niche, it is important to note that these subsectors have annual average wages less than the regional average. In addition, only community care facilities for the elderly have a location quotient greater than one.
- ✓ The subsectors in the Health and Wellness target with the highest location quotients are all other ambulatory health care services (2.18), community care facilities for the elderly (1.28), and offices of chiropractors (1.13). Of these, only the ambulatory health services subsector offer annual average wages greater than the regional average. By contrast, hospitals have low location quotients: general medical and surgical hospitals have an LQ of 0.65, psychiatric and substance abuse hospitals have an LQ of 0.26, and specialty hospitals have an LQ of 0.11.
- ✓ The *Biomedical Research* and *Health Sciences* niches, which all have low concentrations, provide an excellent opportunity for the region. All but two relevant subsectors of these niches (medical equipment and supplies manufacturing and other professional and technical services) provide annual average wages that exceed the regional average of \$41,655. Notably, the scientific research and development services subsector experienced job growth of 18 percent between the second quarters of 2009 and 2010.
- ✓ It is troubling to note that with respect to the overall subsector of health care and social assistance (NAICS 62), the five-year wage growth within the region lags well behind the national figures.

Central Iowa Health and Wellness Target by business subsector, 2Q 2010

Industry Code	Industry Title	2Q2010 Emp	Location Quotient	2010 AAW	1-Yr Emp % Change	5-Yr Emp % Change	US 5-Yr Emp % Change	1-Yr AAW % Change	5-Yr AAW % Change	US 5-Yr AAW % Change
Total Across All Sectors		410,165	1.00	\$41,655	-1.4%	1.1%	-2.5%	3.2%	15.7%	15.1%
Patient Care and Wellness										
62	Health care and social assistance ⁺	49,407	0.86	\$42,695	3.2%	15.9%	12.2%	8.2%	3.1%	16.8%
6221	General, medical, and surgical hospitals ⁺⁺	11,231	0.65	\$57,600	3.8%	6.4%	7.0%	14.5%	35.9%	22.6%
6222	Psychiatric and substance abuse hospitals ⁺⁺	204	0.26	\$54,864	14.0%	n/a	1.4%	6.8%	n/a	13.1%
6223	Specialty hospitals	81	0.11	\$34,250	n/a	n/a	25.4%	n/a	n/a	22.6%
6213	Offices of other health practitioners	1,664	0.78	\$36,289	3.1%	19.7%	21.0%	11.4%	22.6%	15.3%
62134	Offices of specialty therapists	628	0.71	\$45,091	8.7%	17.3%	30.1%	31.4%	7.8%	15.7%
62131	Offices of chiropractors	428	1.13	\$26,147	2.4%	27.5%	4.3%	18.6%	5.9%	11.0%
62132	Offices of optometrists	241	0.69	\$34,597	n/a	29.7%	13.6%	10.3%	n/a	15.5%
62139	Offices of all other health practitioners	131	0.40	\$40,098	54.3%	78.2%	35.8%	18.2%	15.1%	12.1%
62133	Offices of mental health practitioners	88	0.45	\$26,663	12.8%	26.2%	14.7%	-3.2%	-13.8%	12.1%
62111	Offices of physicians	7,454	1.00	\$83,720	5.4%	19.7%	11.5%	15.5%	3.0%	14.1%
62311	Nursing care facilities	4,681	0.85	\$25,837	8.0%	n/a	5.6%	n/a	-1.4%	16.0%
62331	Community care facilities for the elderly	3,055	1.28	\$25,696	8.0%	24.0%	21.0%	25.8%	2.4%	11.8%
62161	Home health care services	2,009	0.58	\$33,333	5.6%	50.6%	32.1%	33.3%	7.3%	18.9%
62121	Offices of dentists	2,001	0.76	\$49,548	0.8%	12.5%	6.6%	11.6%	1.3%	13.6%
62419	Other individual and family services	1,592	1.03	\$29,487	8.3%	81.9%	14.2%	15.0%	2.5%	15.0%
62412	Services for the elderly and disabled	1,385	0.60	\$17,906	24.1%	87.7%	48.5%	-5.6%	-0.3%	8.9%
62431	Vocational rehabilitation services	1,061	0.95	\$23,357	11.8%	6.8%	5.0%	24.4%	-4.0%	11.3%
62199	All other ambulatory health care services	704	2.18	\$53,368	22.1%	38.3%	17.7%	28.8%	3.8%	13.7%
62322	Residential mental and substance abuse care	354	0.56	\$31,087	-3.6%	-3.6%	15.7%	29.1%	6.3%	12.1%
62142	Outpatient mental health centers	246	0.38	\$42,152	-20.8%	n/a	9.5%	n/a	2.7%	14.4%
62151	Medical and diagnostic laboratories	220	0.30	\$80,212	-1.6%	-9.8%	16.5%	2.2%	-4.1%	15.6%
62191	Ambulance services	70	0.13	\$39,492	44.1%	17.4%	22.3%	66.7%	-10.1%	17.0%
62141	Family planning centers	48	0.68	\$43,180	7.5%	n/a	7.0%	n/a	1.0%	34.9%
Biomedical Research										
5417	Scientific research and development services	981	0.48	\$57,375	18.0%	n/a	6.2%	2.5%	n/a	19.7%
3254	Pharmaceutical and medicine manufacturing [~]	462	0.52	\$49,407	n/a	n/a	-2.5%	n/a	n/a	2.5%
3391	Medical equipment and supplies manufacturing [~]	225	0.23	\$37,087	-5.1%	-20.2%	0.5%	6.9%	0.8%	16.1%
62151	Medical and diagnostic laboratories	220	0.30	\$80,212	-1.6%	-9.8%	16.5%	2.2%	-4.1%	15.6%
Health Sciences										
55111	Management of companies and enterprises	5,287	0.90	\$76,475	-2.3%	10.5%	6.5%	40.4%	12.4%	12.3%
54151	Computer systems design and related services	3,096	0.67	\$68,325	7.9%	30.8%	20.8%	9.5%	1.5%	14.2%
5419	Other professional and technical services	1,497	0.81	\$26,762	-0.5%	16.1%	10.3%	2.6%	25.4%	23.9%
54161	Management consulting services	1,193	0.48	\$56,485	-7.7%	-10.4%	12.8%	17.7%	6.0%	17.5%
51121	Software publishers	198	0.24	\$72,967	-10.3%	-4.3%	9.1%	41.4%	10.7%	23.1%

Source: U.S. Bureau of Labor Statistics, unless noted. See Methodology for details.
⁺ Data reflects QCEW data for all counties except Boone County data, which was attained from QWI
⁺⁺ Data reflects Polk County via QWI
[~] Decision Data Estimate

PLACE: CENTRAL IOWA'S DYNAMICS

As noted in the *Competitive Capacity Assessment*, Iowa is the fifth healthiest state in the nation, and Des Moines ranks as the 30th healthiest metro area among 185 areas, according to Gallup-Healthways.

A number of existing and proposed local efforts are already focused on dynamics of Health and Wellness. Healthy Polk 2020 works to improve the overall health and wellbeing of Polk County residents by determining the strategies needed to achieve these results and the community partners that can help implement them. The initiative will work with local entities to align their efforts with the program's goals.

Healthy Iowans is a two-decade-old statewide health assessment and improvement effort that will see its updated program unveiled in October 2011. The plan will provide a ten-year blueprint for addressing Iowa's critical health issues and needs.

In addition to employers like Wellmark Blue Cross Blue Shield that recently opened a new corporate headquarters complete with numerous amenities and features designed to improve employee health and wellness, many Des Moines-area companies have long been focused on the wellness of their employees. One such employer is Meredith Corporation which was recently named a recipient of United HealthCare's "Well Deserved" award for employer wellness in 2010. This is the second time in three years Meredith has received the award, which assesses components including the lessening of health risk through awareness, supporting behavioral change and creating a wellness infrastructure.

Greater Des Moines and Central Iowa benefits from a strong array of research centers focused on Health and Wellness. Among these are:

- **Des Moines University's** clinical research arm which has established strategic partnerships with practicing clinicians, public and private educational institutions and contract research organizations to collaborate on community-based research, observational studies, educational/outcomes research, clinical drug trials and alliances between translational basic science laboratories and practicing physicians.
- The **Iowa Center for Translational and Clinical Research (ICTCR)**, a research collaborative that brings the clinical resources of Mercy Medical Center together with the research infrastructures of Des Moines University's laboratories, Drake University's College of Pharmacy and Health Sciences, and the nursing and allied health programs at Mercy College to create a multidisciplinary research consortium focused on translating science to clinical practices.
- **Mercy Cancer Center** in Greater Des Moines, designated by the National Cancer Institute to be one of 16 community cancer centers in the U.S. to conduct research on personalized treatments through a field of study called biospecimen research. As part of the NCI Community Cancer Centers Program (NCCCP), the Mercy Center received a two-year, \$1.8 million

federal grant to fund its research. The 16 NCCCP centers will collaborate with 14 other cancer centers that participated in an initial two-year pilot phase of the program, bringing the number of participating centers to 30.

Iowa State University has a number of on-campus research centers with applications to Health and Wellness niches. Among these are:

- The **Center for Advanced Host Defense Immunobiotics and Translational Comparative Medicine** (CAHDIT) that examines host defense and host pathogen interactions for human and animal disease with potential applications in vaccine immunobiotics, detection assays and other outputs.
 - The center will support the “One Health” concept, based on improving the global health of all species (human and animal) through collaboration and integrated research efforts of human medicine and veterinary medicine.
- The aforementioned **Center for Computational Intelligence, Learning, and Discovery** (CCILD) that impacts data-driven science and decision making in: Bioinformatics and Medical Informatics.
- The **Center for Research on Botanical Dietary Supplements**, a collaboration between ISU and the University of Iowa to promote and engage in integrated research approaches to understand and assess the health benefits of three botanical species on infection and immunity. The Center includes scientists from the fields of horticulture, botany, biochemistry, molecular biology, toxicology, chemistry, medicinal pharmacology, nutrition, epidemiology, clinical medicine, and statistics.
- **The Iowa Center for Advanced Neurotoxicology** (ICAN), focused on bridging the scientific fields of toxicology and neuroscience to improve the health of humans and animals. One of the Center’s missions is to develop technologies and strategies for diagnosis and treatment of diseases associated with the nervous system.
- The **Nutrition and Wellness Research Center** (NWRC), an interdisciplinary research center focused on health and health-related behaviors. The NWRC leverages basic and applied research in collaboration with faculty as well as industry and community partners. Research is centered around, but not limited to, food and diet; physical activity and lifestyle; epidemiology and policy; and genes and environment.
- The **Virtual Reality Applications Center**, already described under the Information Solutions target, also impacts the Health and Wellness target. As noted, BodyViz and iMed Studios are two companies that spun out of VRAC research.

The previously mentioned Research Activities Tax Credit also serves to incentive programs and direct assistance supportive of Health and Wellness employers.

TARGET CLUSTER: AGRIBUSINESS

Justification

- Agriculture and related employment has been Iowa's defining industry since its founding; the state is the nation's top corn producer
- Industry-leading agribusiness companies headquartered in Central Iowa
- Iowa State one of the nation's top agriculturally-focused research institutions
- Largest federal animal disease center located in Ames
- Awarding of World Food Prize draws global attention to Central Iowa
- Nation's leading producer of corn and cellulosic ethanol
- Growing capacity in research/production of biofuels from non-corn feedstocks
- Strong research tradition in soil sciences and sustainable production

Challenges

- Increasing pressure to implement more stringent regulatory control over the nation's food-development, production and delivery systems
- Numerous foreign markets bar entry of bioengineered foods
- Infringement on agricultural land by residential and commercial development
- Desire by some to move Central Iowa beyond an agricultural identity
- Biofuel Industry highly dependent on federal subsidies for continued growth
- Potential restrictions stemming from claims that global food shortages caused by ethanol production

Opportunities

- Skyrocketing demand from developing nations for affordable, healthy food
- Enhanced research-commercialization for Iowa State University technologies
- Connecting Ames and Greater Des Moines agribusiness concerns through development along the I-35 corridor
- Leveraging World Food Prize to position Central Iowa as hub of food policy
- Continuing to identify alternatives to feed-corn for biofuel production
- Aggressive lobbying to preserve federal biofuel subsidies and enhance the competitive position of renewable energy
- Increased pressure to ensure crop and animal production is sustainable and non-polluting

Target Overview

A reworking of the region's current Biotechnology sector, the Agribusiness target takes advantage of the world-class agriculture base in the region and all its growth applications. The target is comprised of two niches: **Animal Science and Health** and **Agronomy**. The former focuses on animal health (disease identification, prevention and treatment) and its related applications to the food supply and human well-being. *Agronomy* is defined as "the science and technology of producing and using plants for food, fuel, feed, fiber, and reclamation." The science of agronomy incorporates plant genetics, plant physiology, meteorology, and soil science in the practice of producing food, creating energy and other products from plants and managing the environmental impact of agriculture.

Agribusiness

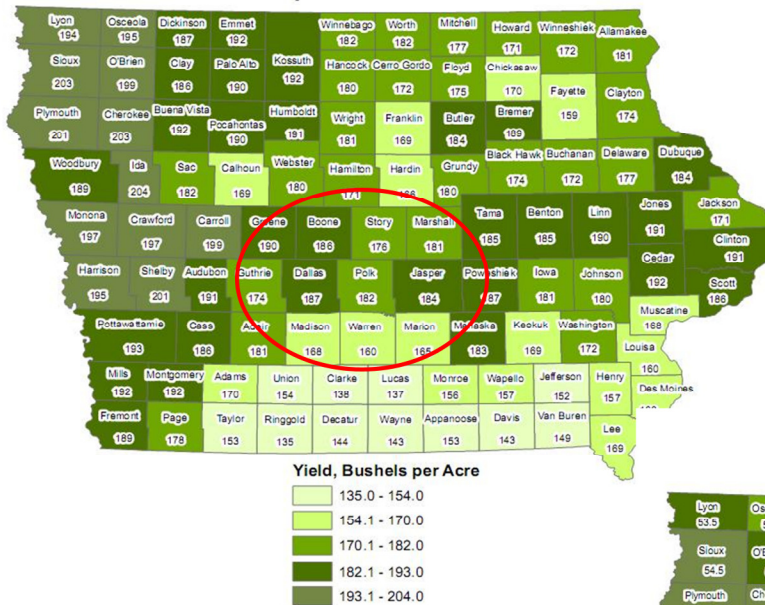
Animal Science and Health

- Biological and Biochemical Research
- Chemical Manufacturing
- Animal Farming
- Animal Food Manufacturing
- Research & Development

Agronomy

- Agriculture and Crop Production
- Plant Genetics
- Biomass
- Biodiesel
- Ethanol
- Ecotechnology
- Research & Development

2009 CORN YIELD
Bushels per Harvested Acre

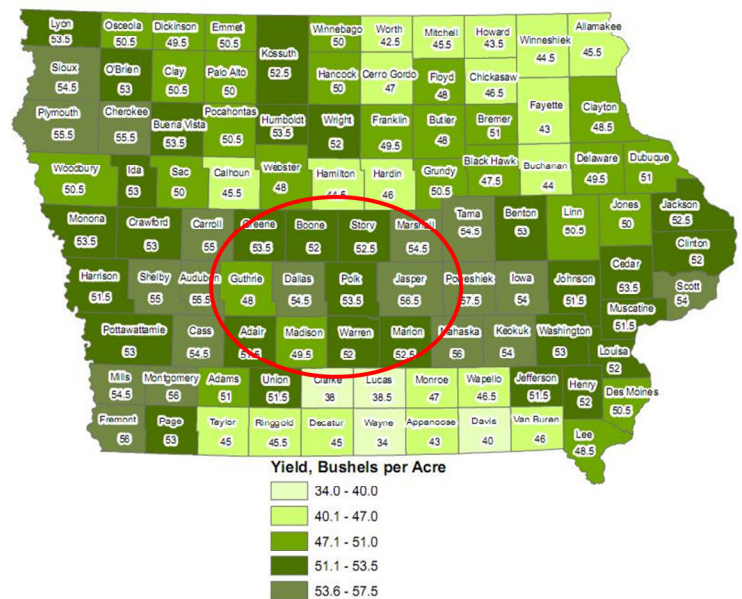


instrumental in the development of biochemicals. Grains and oilseeds bring in the bulk the state's crop sales (\$10.1 billion). Hogs and pigs are Iowa's top livestock inventory items, worth \$4.8 billion in sales.

The region has a world-class agricultural base from which to

The State of Iowa ranks third in the nation for total value of agricultural products sold, according to the 2007 Census of Agriculture published by the United States Department of Agriculture. This rank applies to both market value of crops (\$10.3 billion) and market value of livestock and poultry (\$10.1 billion). Iowa's top crop items by acreage are corn for grain and soybeans, ranking first in the nation. These crops are

2009 SOYBEAN YIELD
Bushels Per Harvested Acre



continue to build research applications that support the Agribusiness targets and which reach to other targets, including Health and Wellness, Advanced Manufacturing and Logistics. The region is strong in corn yield and soybean yield, with high quantities of bushels per acre, as shown by the previous maps. In 2007, the ten-county Central Iowa region brought in \$1.1 billion in crop sales and \$487 million in livestock sales.

Agricultural feedstocks are also critical components of biofuel production. Events such as wars in the Middle East, escalating fossil fuel costs, research on the effects of global warming, a growing population, and other trends have heightened national awareness of America's dependency on foreign oil and non-renewable energy sources, and the need to heighten energy conservation efforts. With this awareness comes more prominent calls for increasing usage of domestically produced renewable and clean energy sources.

Between 2000 and 2008, domestic ethanol production increased from 1.63 to 10.6 billion gallons and the number of production plants increased from 54 to 170. Total production will continue to increase, with the U.S. predicted to continue to be the global leader in ethanol production. The U.S. 2007 Energy Independence and Security Act mandates 36 billion gallons of ethanol to be used in motor fuel by 2022. To meet this benchmark, the industry is investing heavily in research and development. The Renewable Fuels Association estimates that over \$1.4 billion was spent on new generation ethanol technologies in 2008.

Thus, despite production slowdowns since 2008 due to cost imbalances, the future prospects for biofuels are predicted to be strong. Although some experts do not see a clear future in corn ethanol, certain others do. Currently, ethanol is the only renewable fuel deemed price-competitive with fossil fuels. Existing ethanol refineries could also one day attract co-located cellulosic ethanol production facilities taking advantage of existing capacity and because of the relative ease of adapting a processing facility rather than building new.

The **Animal Science and Health** niche promotes the humane use of animals for the production of safe food, fiber, and other biological uses as well as the study of companion animals, their physiology in health and disease, and the ways companion animals can contribute to biomedical research.

- Biological Research: Animals are used in biological and biomedical research for various reasons, including to advance scientific knowledge about the behavior, development, and biological functions of animals and humans; to study disease processes and to develop new vaccines and medicines; and to assess the safety of chemicals that could be harmful to animals, humans, or the environment.
- Biochemical Research: This research combines elements of the studies of chemistry and biology to understand the chemistry of living organisms, or how chemical materials behave in biological systems, including animals and humans. Biochemical research includes identifying and characterizing structures and processes; examining functions, causes, and effects; and

developing new ways to synthesize and engineer compounds for various applied uses.

- Animal Farming: Animal farming is the breeding and raising of livestock. This subsector is comprised of ranches, farms, and feedlots who raise various types of livestock, including cattle, hogs and pigs, poultry, sheep and goat, aquaculture, and horses.
- Animal Food Manufacturing: This subsector is comprised of businesses engaged in manufacturing food for animals from ingredients such as grain, oilseed mill products, and meat products.

The **Agronomy** niche serves the full universe of agricultural research and development including crop science and production, plant genetics and sustainable food supplies, biofuel research, development and production, and the dynamics of soil conservation, science and reclamation. Communities in Central Iowa are especially well positioned to leverage growth opportunities in biofuels. Iowa is the nation's leading producer of corn and cellulosic ethanol, accounting for approximately one-fourth of the nation's ethanol supply. Central Iowa has a distinct competitive advantage as the most rapidly growing area within the state and its robust research assets, most notably those at Iowa State University.

- Agriculture and Crop Production: This subsector is comprised of farms, orchards, groves, greenhouses, and nurseries that grow crops. In addition to corn and soybeans, other crops include vegetables, fruits, mushrooms, and floriculture.
- Crop genetics: The manipulation of corn and soybean strains (primarily) and other crops has resulted in increasingly robust yields for years in the nation's most important crops for food, additives, polymers, sweeteners, milk-and-meat substitutes and dozens of other product applications derived from corn and soybeans.
- Chemical Manufacturing: This subsector includes the creation of chemicals, including separate chemical elements as well as chemically-defined compounds, using an array of processes. Businesses within this sector manufacture petrochemicals, industrial gas, inorganic and organic synthetic dyes and pigments, other inorganic chemicals, such as alkalis and chlorine, and other organic chemicals, such as ethyl alcohol.
- Biofuels: According to the Iowa Biodiesel board, Iowa is a leading state in biodiesel production with the capacity to produce 325 million gallons produced per year from local resources such as soybean oil, beef tallow, and other sources of biomass. The U.S. Energy Information Administration notes that Iowa's 2009 biodiesel production ranked second nationally behind Texas. This is important because experts believe that ethanol will ultimately be replaced by cellulosic feedstock and other types of biomass. The state's Renewable Fuel Standard (RFS) took effect in 2009 and aims to replace 25 percent of conventional motor fuel with biofuels (ethanol or biodiesel) by 2020. Of the 15 plants located in Iowa, only one is in the Central Iowa region

in Newton; however, the inputs and research assets support targeting biodiesels within this recommended target.

- **Ecotechnology:** This field of study, also known as ecological engineering, is the integration of engineering and ecological principles to create approaches to conserving and restoring the environment. Ecotechnology seeks to operate within the natural system, finding ecosystem-based solutions, instead of overcoming or contravening it. Also important, ecotechnology emphasizes acknowledging and understanding the entire ecosystem instead of specific components separate from others. The dynamics of soil science and reclamation play a role in this sub-sector.

PEOPLE: OCCUPATIONAL ANALYSIS

Of the 322,000 workers in Greater Des Moines, 4,690 are employed in core occupations relevant to the Agribusiness target. As shown in the following table, 46.4 percent of the evaluated occupations offer average annual wages that exceed the area's May 2009 average annual wage of \$42,120, covering over 3,000 workers. Nineteen percent of the occupations examined, covering nearly 2,000 workers, have both location quotients of 1.0 or greater and average annual wages that exceed the metro average wage. There are four of these high-concentrated, high-paying occupations: agricultural inspectors, purchasing agents and buyers of farm products; soil and plant scientists; and statisticians.

- ✓ The Agribusiness employment sub-sectors are in the *Agronomy* niche: plumbers, pipefitters, and steamfitters (960), which is labor-intensive, and soil and plant scientists (910), which is knowledge-based.
- ✓ The occupations with the highest concentration in Greater Des Moines are soil and plant scientists (31.21), agricultural and food science technicians (5.49), purchasing agents and buyers of farm products (2.78), and forest and conservation workers (2.08). Of these, soil and plant scientists and purchasing agents and buyers of farm products earn an average annual wage greater than the regional average. The soil and plant scientist LQ is one of the most concentrated in the nation.
- ✓ The highest earning occupations in the Agribusiness target are science-related: natural sciences managers (\$134,540), environmental engineers (\$72,810), soil and plant scientists (\$67,530), and environmental scientists and specialists (\$65,610). It is important to note that two of these occupations, natural sciences managers and soil and plant scientists earn a higher average annual wage in Greater Des Moines than the national average for these occupations. Purchasing managers earn high wages in the region as well, earning an average annual wage of \$77,670.

Agribusiness Occupational Target, Greater Des Moines, May 2009

SOC code	Occupation	Employment			United States
		Des Moines MSA	Location Quotient	Des Moines MSA	
Total, all Occupations		322,000	1.00	\$42,120	\$43,460
Animal Science and Health					
392021	Nonfarm Animal Caretakers	340	1.04	\$18,980	\$21,830
194011	Agricultural and Food Science Technicians	250	5.49	\$35,410	\$36,850
452041	Graders and Sorters Agricultural Products	150	1.52	\$20,310	\$20,640
119121	Natural Sciences Managers	90	0.83	\$134,540	\$127,000
452093	Farmworkers Farm and Ranch Animals	60	0.70	\$26,670	\$23,640
191022	Microbiologists	*	*	\$60,670	\$71,980
194021	Biological Technicians	*	*	\$34,280	\$41,140
291131	Veterinarians	*	*	\$61,540	\$90,110
292056	Veterinary Technologists and Technicians	*	*	\$26,860	\$30,580
319096	Veterinary Assistants and Laboratory Animal Caretakers	*	*	\$22,590	\$23,400
Agronomy					
472152	Plumbers Pipefitters and Steamfitters	960	0.97	\$48,290	\$49,870
191013	Soil and Plant Scientists	910	31.21	\$67,530	\$65,180
131023	Purchasing Agents Except Wholesale Retail and Farm	570	0.82	\$48,300	\$58,550
537081	Refuse and Recyclable Material Collectors	300	0.94	\$32,570	\$33,760
518031	Water & Liquid Waste Treatment Plant & System Operators	260	0.97	\$42,010	\$41,580
192041	Environmental Scientists & Specialists Including Health	120	0.58	\$65,610	\$67,360
113061	Purchasing Managers	100	0.62	\$77,670	\$96,910
452091	Agricultural Equipment Operators	90	1.63	\$29,070	\$25,220
452092	Farmworkers & Laborers Crop Nursery & Greenhouse	90	0.16	\$24,830	\$19,780
119121	Natural Sciences Managers	90	0.83	\$134,540	\$127,000
172081	Environmental Engineers	90	0.72	\$72,810	\$80,750
131021	Purchasing Agents and Buyers Farm Products	80	2.78	\$63,670	\$62,450
152041	Statisticians	60	1.14	\$64,120	\$75,220
194093	Forest and Conservation Technicians	50	0.65	\$41,310	\$36,370
452011	Agricultural Inspectors	50	1.45	\$44,390	\$41,860
191031	Conservation Scientists	40	0.97	\$49,760	\$61,180
454011	Forest and Conservation Workers	30	2.08	\$23,410	\$29,410
194031	Chemical Technicians	*	*	\$33,930	\$43,900
194099	Life Physical and Social Science Technicians All Other	*	*	\$35,380	\$44,870

Source: U.S. Bureau of Labor Statistics.

Agribusiness Occupational Target, Central Iowa, May 2009

SOC code	Occupation	Des Moines + Ames MSA			U.S.
		Employment	Location Quotient	Average Annual Wage	Average Annual Wage
	<i>Total, all Occupations</i>	364,090	1.00	\$41,955	\$43,460
110000	Management Occupations	17,870	1.05	\$92,461	\$102,900
150000	Computer and Mathematical Science Occupations	12,990	1.41	\$67,159	\$76,290
170000	Architecture and Engineering Occupations	4,090	0.61	\$63,239	\$73,590
190000	Life Physical and Social Science Occupations	4,940	1.35	\$56,521	\$65,660
450000	Farming Fishing and Forestry Occupations	690	0.59	\$29,246	\$23,990
470000	Construction and Extraction Occupations	14,210	0.89	\$41,704	\$43,350
490000	Installation Maintenance and Repair Occupations	13,960	0.98	\$41,958	\$42,210
510000	Production Occupations	*	*	*	\$33,290

Source: U.S. Bureau of Labor Statistics.

- ✓ When the Ames MSA is included in the analysis, knowledge-based occupation categories still have the largest employment (39,890 workers), including management; computer and mathematical science; architecture and engineering; and life, physical, and social science. Labor-intensive occupation categories account for another 28,860 jobs, including transportation and material moving; construction and extraction; installation, maintenance, and repair; production (although the data is suppressed); and farming, fishing, and forestry.

Workforce Development

Degrees/certificates related to the Agribusiness target sector are concentrated at the bachelor's degree level; 54 percent of all of the sector-related degrees and certificates awarded from 2005-2009 were awarded at the bachelor's level. Associate's degrees accounted for 13 percent of the total, certificates below the baccalaureate for four percent, master's degrees for 19 percent, and doctoral and professional degrees for 10 percent. One third of all sector-related degrees and certificates were awarded in health professions and related clinical sciences, with awards in engineering accounting for another 25 percent, agriculture, agricultural operations, and related sciences for 13 percent, and biological and biomedical science for 11 percent.

Central Iowa Degrees and Certificates Awarded in Agribusiness Disciplines, 2005-2009

<i>Major</i>	<i>Certificates below the baccalaureate</i>	<i>Associate</i>	<i>Bachelor</i>	<i>Certificates above the baccalaureate</i>	<i>Master</i>	<i>Doctoral/Professional Degree</i>	<i>Total</i>
Agriculture, agriculture operations, and related sciences	195	124	2,056	-	288	76	2,739
Architecture and related services	-	-	628	-	138	-	766
Biological and biomedical sciences	-	18	1,790	-	216	132	2,156
Computer and information sciences and support services	65	316	495	1	177	14	1,068
Construction trades	118	19	-	-	-	-	137
Engineering technologies/technicians	24	187	-	-	-	-	211
Engineering	-	31	3,994	-	866	208	5,099
Health professions and related clinical sciences.	475	1,906	1,050	-	1,850	1,532	6,813
Mathematics and statistics	-	-	355	-	176	47	578
Natural resources and conservation	-	-	343	-	64	11	418
Physical sciences	-	-	405	-	71	108	584
Grand total	877	2,601	11,116	1	3,846	2,128	20,569

Source: National Center for Education Statistics, IPEDS Database

Note: Included in this analysis are all two and four-year public and private, not-for-profit colleges and universities in the Central Iowa region.

- Iowa State University's agriculture departments are ranked among the best in the United States. The Department of Agriculture and Biosystems Engineering program was rated in the top three in the nation by the *U.S.*

News and World Report for 2009. The agricultural business major in the College of Agriculture and Life Sciences at ISU boasts a 90 percent job placement rate. The Department of Agriculture Education and Studies was ranked as fifth best in agricultural education in a study done by Ohio State University.

- Iowa State University offers dozens of degree categories pertaining to Agribusiness. Undergraduate programs include agriculture and life sciences education, agricultural studies, agricultural engineering, agricultural systems technology, and agricultural business. ISU also offers international agriculture as a secondary major. The graduate program offers agricultural engineering, industrial and agricultural technology, and professional agriculture.
 - ISU has one of the largest veterinary colleges in the country. Programs offered include: Veterinary Biomedical Sciences; Veterinary Clinical Sciences; Veterinary Diagnostic and Production Animal Medicine; Veterinary Microbiology and Preventive Medicine; Veterinary Pathology; and Zoology and Genetics.
 - ISU's Department of Agronomy is one of the few of its kind in the nation. The presence of on-campus USDA laboratories, numerous undergraduate and graduate student scholarships and fellowships and collaborations with other university departments and centers makes Iowa State's Agronomy department competitive for some of the top students in the discipline. An undergraduate degree offers four areas of emphasis ranging from agroecology to business to biotechnology. At the graduate level, M.S. and Ph.D. programs are available in agricultural meteorology, agronomy (M.S. only), crop production and physiology, plant breeding, and six areas of specialization within soil science.
- Due to the growth and demand at the Agricultural and Biosystems Engineering Department at Iowa State, the department is planning a major expansion to their building. The new building will bring all faculty in the department together as well as invest in new teaching tools. The total cost of the ABE building project will be \$74.5 million, with \$14.1 million to come from private funding.
- The Department of Animal Sciences at Iowa State offers specific degrees pertaining to beef, companion animal, dairy, equine, poultry, sheep, and swine. ISU also offers a variety of veterinary degrees, as well as programs in zoology.
- Iowa State University's Bioeconomy Institute offers a degree in Biorenewable Resources and Technology. ISU established the first graduate program (M.S. and Ph.D) in this field in the U.S. Along with this degree, ISU also offers programs in environmental studies & natural resource and ecology & environmental management.

- The Graduate Program in Sustainable Agriculture at ISU is the only program in the nation to offer both Master of Science and Ph.D. degrees in sustainable agriculture.
- The Center for Agriculture and Rural Development (CARD) at ISU is affiliated with the Food and Agricultural Policy Research Institute. CARD's purpose is "leadership in economic analysis to improve agricultural, food, and environmental policy."
- ISU's College of Agriculture and Life Sciences regularly works with Natural Resource Conservation Service (NRCS) to allow students to gain a more in depth look at the agribusiness world.
- ISU has a Seed Science Center that provides teaching and research on seeds in the College of Agriculture and Life Sciences. The Laboratory at the Center is one the largest seed testing programs, testing thousands of seed samples of over 300 seed species.
- Central College offers an environmental studies major and several study abroad opportunities for students focusing on this major: a Merida, Mexico internship at national and state parks, a University of Wales in Bangor internship in natural resource management and oceanography, and a Leiden, Netherlands internship in global issues of sustainability.
 - Central is also a member of the Association for the Advancement of Sustainability in Higher Education, the Upper Midwest Association for Campus Sustainability, and a signatory to the Talloires Declaration. All Central College students take a sustainability course as a part of their core requirement.
- Grand View University offers a Biology major with a cellular/molecular biology curriculum and majors in Biotechnology and Biochemistry, as well as minors in Biology and Chemistry.
- Des Moines Area Community College has a variety of certificates that can be earned in the Agribusiness field, including specializations in agronomy, animal sciences, farm management, and sales. Certificates are available in farm management, greenhouse production. The school also offers an Associate of Applied Science program in commercial horticulture and programs in biotechnology, environmental science, farm management, and biomass operations, as well as training for wind turbine technicians.
- Marshalltown Community College offers degrees in entrepreneurial and diversified agriculture, agriculture, horticulture, and wildlife/fisheries/forestry.

PROSPERITY: BUSINESS SECTOR ANALYSIS

Central Iowa has many notable Agribusiness employers. Johnston-based Pioneer is the world's second-largest producer of specialized seeds, behind only Monsanto. Pioneer recently announced a multi-million-dollar expansion at their headquarters, adding upwards of 500 new jobs. Kemin Industries is a multi-million dollar conglomerate specializing in the research and production of foods, agrifoods, pet

foods, nutraceuticals and pharmaceuticals. While still headquartered in Des Moines, Kemin now operates in over 60 countries, with manufacturing facilities in China, Singapore, Thailand, India, South Africa, Belgium, Brazil and the United States. Des Moines-Based Feed Energy recently celebrated its 25th anniversary. The company provides fat and oil additives for livestock feed rations. The National Animal Disease Center, the largest federal animal disease center in the nation, is located in Ames.

Ag Leader develops and sells crop yield monitors. With nearly 200 employees, the Ames-based company also markets farming software and products designed for GPS, guidance and variable rate application for the agriculture industry. Barilla America is the U.S. base of operations for the Italian pasta manufacturer. Nearly all Barilla pasta sold in the U.S. is manufactured in Ames. Becker Underwood is a multi-national company that creates and produces specialty bio-agronomic and colorant products for turf management, agriculture, seed treatment, wood recycling, aquaculture, vegetation management, forestry, structural pest control and other industries. Central Iowa Energy is a biodiesel refinery employing over 20 workers in Newton. The Renewable Energy Group, a biodiesel company, is headquartered in Ames. Ethanol producer Lincolnway Energy employs nearly 50 workers in Nevada in Story County.

The following table shows the region's employment and wages for the Agribusiness target business sectors in the second quarter of 2010. There are 18,354 jobs in Agribusiness-specific sectors, representing 4.5 percent of all jobs in the region. The target's average annual wage is \$49,389, or 18.6 percent higher than the regional average annual wage of \$41,655. Although the region has a strong concentration of employment in several subsectors pertaining to the resources needed within the target, it has an overall location quotient of 0.75, indicating an opportunity for growth in other subsectors.

- ✓ The largest Agribusiness subsectors in terms of employment are management, scientific, and technical consulting services (1,551), which includes environmental consulting services (115); agricultural market and commodity regulation (1,245); engineering services (1,245); and support activities for crop production (1,070). Support activities for crop production (\$31,072) is the only subsector of these that offer wages less than the regional average annual wage of (\$41,655).
- ✓ The subsectors with the highest concentrations are all agriculture-specific, including grain and field bean merchant wholesalers (5.31), agricultural market and commodity regulation (4.54), oilseed and grain farming (4.37), farm product raw material merchant wholesalers (4.01), hog and pig farming (3.60), animal food manufacturing (3.59), support activities for animal production (3.58), pesticide, fertilizer, and other agricultural chemical manufacturing (2.77), and livestock merchant wholesalers (2.16). Of subsectors with low location quotients, many are applications, including water supply and irrigation systems (0.24), medical and diagnostic laboratories (0.30), testing laboratories (0.31), engineering services (0.42), scientific research and development services (0.48), and pharmaceutical and medicine manufacturing (0.52).

- ✓ The highest earning subsectors are medical and diagnostic laboratories (\$80,212); agricultural market and commodity regulation (\$63,772); other chemicals merchant wholesalers (\$60,916); and engineering services (\$60,659). As expected, the lowest earning subsectors are those related to crop and animal production.

Central Iowa Agribusiness Target by business subsector, 2Q 2010

Industry Code	Industry Title	2Q2010 Emp	Location Quotient	2010 AAW	1-Yr Emp % Change	5-Yr Emp % Change	US 5-Yr Emp % Change	1-Yr AAW % Change	5-Yr AAW % Change	US 5-Yr AAW % Change
Total Across All Sectors		410,165	1.00	\$41,655	-1.4%	1.1%	-2.5%	3.2%	15.7%	15.1%
Animal Science and Health										
5417	Scientific research and development services	981	0.48	\$57,375	18.0%	n/a	6.2%	2.5%	n/a	19.7%
112	Animal production+	648	0.90	\$34,349	-4.8%	8.6%	5.6%	-10.7%	12.6%	13.8%
1122	Hog and pig farming~	322	3.60	\$42,031	n/a	n/a	13.7%	n/a	n/a	7.8%
3111	Animal food manufacturing~	590	3.59	\$57,420	n/a	n/a	6.5%	n/a	n/a	15.5%
3254	Pharmaceutical and medicine manufacturing~	462	0.52	\$49,407	n/a	n/a	-2.5%	n/a	n/a	2.5%
1152	Support activities for animal production~	313	3.58	\$30,722	n/a	n/a	2.0%	n/a	n/a	16.6%
62151	Medical and diagnostic laboratories	220	0.30	\$80,212	-1.6%	-9.8%	16.5%	2.2%	-4.1%	15.6%
424520	Livestock merchant wholesalers~	132	2.16	\$31,084	n/a	n/a	-7.2%	n/a	n/a	30.5%
Agromony										
5416	Management, scientific, and technical consulting svcs	1,551	0.58	\$56,029	-3.2%	-2.4%	-14.5%	5.1%	16.8%	-12.1%
54162	Environmental consulting services~	115	0.47	\$48,614	n/a	n/a	11.9%	n/a	n/a	16.9%
92614	Agricultural market and commodity regulation	1,245	4.54	\$63,772	0.3%	-5.3%	-2.4%	21.9%	21.9%	18.4%
54133	Engineering services	1,245	0.42	\$60,659	-6.6%	15.0%	5.6%	1.3%	15.0%	22.5%
1151	Support activities for crop production~	1,070	1.09	\$31,072	n/a	n/a	5.2%	n/a	n/a	16.1%
5417	Scientific research and development services	981	0.48	\$57,375	18.0%	n/a	6.2%	2.5%	n/a	19.7%
4245	Farm product raw material merchant wholesalers	925	4.01	\$44,164	-3.8%	2.2%	-0.5%	10.5%	23.8%	-25.8%
111	Crop production	828	0.46	\$26,756	-1.5%	6.7%	-5.7%	-15.4%	6.5%	15.5%
1111	Oilseed and grain farming~	572	4.37	\$32,733	n/a	n/a	38.8%	n/a	n/a	19.3%
11115	Corn farming~	209	4.48	\$27,120	n/a	n/a	43.9%	n/a	n/a	14.3%
1114	Greenhouse, nursery, and floriculture production~	258	0.48	\$29,138	n/a	n/a	-15.0%	n/a	n/a	11.2%
424510	Grain and field bean merchant wholesalers~	797	5.31	\$52,502	n/a	n/a	9.6%	n/a	n/a	41.0%
92412	Administration of conservation programs	710	0.98	\$54,185	n/a	-8.2%	0.1%	n/a	0.7%	18.9%
23711	Water and sewer line and related structures construction~	524	1.02	\$47,943	n/a	n/a	-19.3%	n/a	n/a	16.9%
3254	Pharmaceutical and medicine manufacturing~	462	0.52	\$49,407	n/a	n/a	-2.5%	n/a	n/a	2.5%
5629	Remediation and other waste management services	395	1.01	\$46,319	5.5%	16.7%	10.1%	2.2%	6.4%	15.2%
3253	Pesticide, fertilizer, other agricultural chemical mfg~	324	2.77	\$53,840	n/a	n/a	-12.3%	n/a	n/a	15.4%
4246	Chemical and allied products merchant wholesalers	324	0.78	\$59,178	-6.9%	-23.6%	5.1%	5.5%	22.3%	-8.0%
42469	Other chemicals merchant wholesalers	234	0.73	\$60,916	n/a	-32.3%	-5.6%	n/a	30.7%	10.4%
813312	Environment, conservation, and wildlife organizations~	177	1.06	\$30,415	n/a	n/a	34.5%	n/a	n/a	14.6%
42393	Recyclable material merchant wholesalers	176	0.52	\$38,298	-23.2%	-35.7%	5.3%	-4.7%	9.7%	10.6%
54138	Testing laboratories	142	0.31	\$40,289	-20.0%	-19.3%	1.5%	-9.8%	-19.7%	0.7%
22131	Water supply and irrigation systems~	111	0.24	\$41,392	n/a	n/a	4.3%	n/a	n/a	17.1%
54135	Building inspection services	79	1.48	\$31,044	-4.4%	52.9%	-5.3%	-7.9%	-12.8%	17.3%
92411	Air, water, and waste program administration	2	0.01	\$108,304	-50.0%	-50.0%	2.4%	-1.0%	20.0%	22.6%

Source: U.S. Bureau of Labor Statistics, unless noted. See Methodology for details.
 + Data reflects QCEW data for all counties except Story County data, which was attained from QWI
 ~ Decision Data Estimate

PLACE: CENTRAL IOWA'S DYNAMICS

Central Iowa can defensibly claim to be one of the most competitive regions in the country for agriculturally-based industries. Located in the nation's top corn-producing state and home to Iowa State University and its hundreds of millions in sponsored research, multiple research centers, training programs and experimental facilities, the Des Moines-Ames corridor is fertile ground for both established companies and opportunities in start-up and research-commercialized businesses. In their February 2011 report *Realizing Iowa's Bioscience Potential: 2011 Iowa Bioscience Strategy*, the Battelle Technology Partnership Practice wrote of Iowa State, "No other location in the country has such a complete suite of capabilities for bioeconomy development... Taken together—ISU's infrastructure is perhaps unique in the nation in being able to take a holistic approach to bioeconomy development—ranging from plant biomass development at the front end, through harvesting, transportation, preprocessing and processing into end-use demonstration and scale-up products." In an attempt to create synergies among its bioscience-focused research entities, ISU constructed the Biorenewables Research Lab (BRL) building, a 70,000-square-foot facility aimed at co-locating ISU institutes and centers to facilitate multi-disciplinary bioeconomy project development.

Once a year, Des Moines becomes the epicenter of the food universe through the awarding of the World Food Prize, often called the "Nobel Prize for food." Created in 1986 by Nobel laureate Dr. Normal E. Borlaug, the annual World Food Prize is the foremost international award recognizing the achievements of individuals who have advanced human development by improving the quality, quantity, or availability of food in the world. The World Food Prize Youth Institute was established in 1994 by The World Food Prize Foundation as a tool to increase awareness of The World Food Prize mission among Iowa youth.

Central Iowa has also seen a number of efforts emerge focused on aspects of sustainability and the use of renewable resources. Des Moines is the home of the Iowa Clean Cities Coalition, an organization that promotes renewable fuels and infrastructure, provides educational opportunities, and collaborates with partners to promote emerging technologies. Recent headquarters developments in Greater Des Moines by Aviva USA and Wellmark actively pursued LEED certification for their construction. Wellmark is seeking a LEED-platinum certification for its headquarters and is awaiting word on that award. However, Aviva USA's new headquarters has already been designated LEED-gold, the largest building in Iowa and one of only five its size or larger in America to achieve that designation. Aviva USA is a subsidiary of Aviva PLC – the world's sixth-largest insurance group and the first global insurance company to become carbon-neutral.

Central College in Pella, Iowa won the state's first LEED rating in 2003 for its new Vermeer Science Center. Then, in 2004, Central earned LEED rating for McKee Hall. Central College is committed to on campus recycling, and LEED guidelines for new buildings, including the Roe Center. Further emphasizing its commitment to sustainability, Central College currently uses several all-electric vehicles and two Toyota Hybrids in hopes to power all Central cars with photovoltaics.

In February 2001, the Downtown (Des Moines) Community Alliance, an affiliate of the Greater Des Moines Partnership, officially launched its EcoCore initiative, a new program designed to give property owners the opportunity to retrofit their buildings to make them more competitive in the marketplace. The city of Des Moines, which worked with the DCA to develop EcoCore, has committed \$250,000 to pay environmental consultants to conduct sustainability audits on several downtown office buildings.

Central Iowa's innovation, research and development capacity in Agribusiness is almost exclusively housed at Iowa State University. Entities include:

- As previously noted, the ISU-run **Ames Laboratory** is a 60-year-old government-owned, contractor-operated research facility of the U.S. Department of Energy that seeks solutions to energy-related issues through the exploration of chemical, engineering, materials, mathematical and physical sciences.
 - Division of Chemical and Biological Sciences – This Division develops and applies theoretical, computational and experimental methods to the study of surface reaction phenomena, cluster science and nucleation, biological processes and catalysis. This research has led to improved processes for biodiesel production
 - Environmental & Protection Sciences – This program supports the U.S. Department of Energy's initiative to clean up hazardous waste through quick-response, safer, cheaper and improved technological solutions.
 - Simulation, Modeling & Decision Science - The program works to model the engineered, human, and natural systems. The approach seeks to address issues of energy system design, environmental impact, and sustainability.
- The **Agromony and Agricultural and Biosystems Research Farm**, a facility that will grow biomass crops for use as biofuels and bioproducts and use crops from other research farms to test and demonstrate processing system technologies before going to commercial scale.
- The **Biobased Industry Center** brings together research and education initiatives to address key issues for bio-based industry and supply chain development.
- **BioCentury Research Farm** is the first integrated research and demonstration farm in the U.S. dedicated to biomass production and processing. The Farm features operations for various biomass processing technologies, including pyrolysis and biofuels production.
- **Biomass Processing Facility** contains pilot plant processes, laboratories and offices, including areas for grinding and chemical pretreatment. Pilot plant areas include three focus areas: biochemical, thermochemical and bioprocessing.

- **Center for Biorenewable Chemicals** (CBiRC) –An NSF funded Engineering Research Center focused on the development of biocatalysis and chemical catalysis to produce chemicals from biomaterials.
- **Center for Food Security and Public Health** (CFSPH) – develops biological risk-management tools that seek to protect animals from contracting infectious diseases.
- Research at the **Information Infrastructure Institute** (iCUBE) leverages infrastructure systems to develop information solutions for energy systems, safety critical avionics systems, agricultural engineering systems, water and agriculture systems, numerical weather prediction models, transportation, and networks and earthquake engineering simulation.
- **Office of Biotechnology** facilitates and advances programs in research, education, and outreach in order to support ISU's three biotech focus areas: (1) increasing the value of current agricultural raw materials through bioprocessing techniques; (2) increasing the efficiency, profitability and sustainability of plant and animal production and; (3) genetic modification of plants, animals and microbes to produce more diverse products of greater economic value.
- **Plant Sciences Institute** (PSI) – Launched by the state in 1999, PSI is an umbrella organization on the Iowa State campus composed of nine centers focused on specific areas of plant science. A theme that has guided the development of the Institute is to generate knowledge and practices for the creation of valuable traits in Iowa crops using the power of genomics and bioinformatics. One of PSI's goals is to "Help realize the vision of Iowa as food and bioenergy capital of the world." Housed at PSI are:
 - Center for Crops Utilization Research (CCUR)
 - Center for Metabolic Biology (CMB)
 - Center for Plant Genomics (CPG)
 - Center for Plant Responses to Environmental Stresses (CPRES)
 - Center for Plant Transformation (CPT)
 - Laurence H. Baker Center for Bioinformatics and Biological Statistics
 - Nutrition and Wellness Research Center (NWRC)
 - Raymond F. Baker Center for Plant Breeding
 - Seed Science Center
- Other ISU centers include:
 - Agricultural Marketing Resource Center (AgMRC)
 - Beginning Farmer Center (BFC)
 - Biosafety Institute for Genetically Modified Agricultural Products (BIGMAP)
 - Center for Agricultural & Rural Development (CARD)
 - Center for Agricultural Law and Taxation (CALT)

- Center for Crops Utilization Research (CCUR)
- Center for Integrated Animal Genomics (CIAG)
- Center for International Agricultural Finance (CIAF)
- Center for Sustainable Rural Livelihoods (CSRL)
- Community Vitality Center (CVC)
- Egg Industry Center
- Food and Agricultural Policy Research Institute (FAPRI)
- Institute for International Cooperation in Animal Biologics (IICAB)
- Iowa Beef Center (IBC)
- Iowa Pork Industry Center (IPIC)
- Leopold Center for Sustainable Agriculture
- Midwest Agribusiness Trade Research & Information Center (MATRIC)
- Midwest Grape and Wine Industry Institute
- North Central Regional Aquaculture Center (NCRAC)
- Veterinary Medical Research Institute (VMRI)

Another key asset is the Ames-based **National Animal Diseases Center**, the largest federal animal disease center in the country. The U.S. Department of Agriculture facility is focused on research to solve animal health and food safety problems faced by livestock producers and the public.

At the state level, the **Office of Energy Independence** (OEI) seeks to identify goals and strategies to advance Iowa's clean-energy economy and practices. The office is charged with aligning state government efforts for achieving energy independence through partnerships with business and industry, community leaders, government and public agencies, and other stakeholders.

Incentives and direct assistance provided by the state to support Agribusiness includes the Research Activities Tax Credit, Grow Iowa fund, the Demonstration Fund and a Value-Added Agriculture Component that seeks to increase the innovative utilization of Iowa's agricultural commodities. A previous tool, the Iowa Power Fund, helped support renewable energy projects but is currently under review and not accepting applications. The full suite of state incentives and tax abatements are also available for qualifying prospects.

TARGET CLUSTER: ADVANCED MANUFACTURING

Justification

- A number of industry-leading manufacturers located in Central Iowa
- Concentration of agricultural production creates strong market for ag-equipment manufacturers
- Growing capacity in wind-energy-component manufacturing
- Cutting-edge R&D in solar cell technology at Iowa State
- Lower than average costs for land and labor
- State incentives available for renewable energy projects

Challenges

- Remaining competitive in manufacturing requires constant optimization of processes and products
- Funding source for energy-grid retrofits yet to be identified
- Tremendous national and global competition for green-technology component production
- Agriculture machinery manufacturers face constant pressure from low-cost markets
- Interest in manufacturing as a career said to be waning in Central Iowa

Opportunities

- Working with existing manufacturers to identify and attract suppliers to Central Iowa
- Increase awareness and engagement of students and graduates in manufacturing employment opportunities
- Leverage extensive R&D in solar and wind energy to manufacture components in Central Iowa
- Optimize tax and incentive climate in Iowa
- Continue to lobby federal government for improved competitive dynamics with overseas manufacturers

Target Overview

The Advanced Manufacturing target carries forward the Greater Des Moines Partnership's existing cluster category, but focuses the sector on two key niches: **Farm Equipment** and **Component Manufacturing and Installation**.

While manufacturing employment has been declining in Iowa and nationwide for years, the sector's productivity has actually continued a steep ascent during this same period. In order for domestic manufacturers to remain competitive against low-cost foreign competition, they have had to optimize their design, production and distribution processes and continually develop innovative products that cannot be matched by overseas manufacturers. One consequence of this constant innovation is that fewer workers are needed to produce the same amount of goods. This does not mean, however, that manufacturing in America or Iowa is "dead," simply that it is changing.

A recently released book called *Make it in America: The Case for Reinventing the Economy* written by Andrew Liveris, the Chairman and CEO of The Dow Chemical Company, argues that manufacturing can actually *drive* the renaissance of the U.S. economy. Liveris claims that foreign manufacturers are producing goods developed from American innovation and wonders why these same good could not be built in the country of their design. He challenges the U.S. government to renew American manufacturing by enacting a comprehensive advanced manufacturing polity that would address issues such as high tax rates, contradictory regulations, failing schools and other competitive dynamics. According to Liveris, public-private partnerships between business and government will help create a stable and reliable business climate for investors and entrepreneurs, thus stimulating product development and domestic manufacture of these goods.

The fact of the matter is that Central Iowa has a key competitive advantage for the Farm Equipment niche in Advanced Manufacturing because of the incredible concentration of agricultural employment in the state. Access-to-market has fueled the growth of firms like Vermeer, John Deere, Firestone and others, and enabled these firms to reach a size that they can export outside of the state and nation. This **Farm Equipment** niche encompasses the manufacture of agriculture, construction, and mining machinery; it also includes the merchant wholesalers responsible for transporting raw materials, parts and finished goods to and from buyers, suppliers and distributors. The region benefits from high employment concentration in this niche, boasting a location quotient of 3.20 in the second quarter 2010. Despite national job losses in manufacturing, the farm equipment and supplies manufacturing sector in the region still employs over 12,000 workers.

Advanced Manufacturing

Farm Equipment

- Farm Equipment Mfg & Servicing

Component Manufacturing and Installation

- Smart Grid
- Wind Turbine Components
- Solar Cells and Panels

According to the U.S. Department of Energy, demand for electricity is expected to grow 30 percent by 2030. In 2007, only eight percent of U.S. power production came from renewable sources – solar, hydro, wind and geothermal – far short of President Obama’s goal of 17 percent by 2025. Because of these dynamics, entrepreneurs are starting new businesses, and existing companies are re-strategizing to take advantage of these new opportunities. The **Component Manufacturing and Installation** niche area of this target leverages Central Iowa’s competitive position for wind power and smart grid technologies.

- **Smart grid** technologies are key to energy transmission management. By plugging electric appliances into sensing devices that then plug into the wall, the sensing device enables communication between points of use in a consumer’s home and the utility provider. This creates a “smart” grid because it allows consumers to see what electricity they use and make smarter conservation or cost-saving decisions, and it also enables utilities to better balance supply and demand. The \$789 billion federal economic recovery bill included \$11 billion for smart grid technologies, \$7.5 billion for renewable energy and transmission line construction, \$500 million for green jobs training, and \$400 million for alternative energy R&D.
- Because of its comparative cost benefits and the opportunities for large-scale, relatively fast installations (typically in one year or less for most farms), **wind energy** can fill considerable demand in the coming years. The U.S. Department of Energy estimates that solar power costs for consumers range from 24-59 cents per kilowatt hour, while wind energy costs about 9-12 cents. This is in range of existing, traditional non-renewable energy sources like natural gas (5-10 cents). In 2008 alone, the country’s total wind energy capacity increased by 50 percent. In 2009, wind power accounted for 39 percent of the nation’s new generating capacity installed in that year. Iowa ranks second behind only Texas in wind power generation. Communities in Central Iowa are especially well positioned to leverage growth opportunities in wind energy as the state’s highest concentration of highways, rail and air-cargo capacity can be found in and around the Capital City. Greater Des Moines is also home to one of two Foreign Trade Zones in Iowa.
- Opportunities to manufacture components for **Solar Energy** will likely be derived from technologies developed at Iowa State University and affiliated research centers. Recently, a team of ISU-affiliated Ames Laboratory researchers investigating organic polymers discovered a way to make solar cells more efficient by capturing more light through the application of a patented textured surface to the cell. Iowa State is currently looking for manufacturers to mass produce the polymer solar cells, which can be used to recharge consumer electronics and, eventually, as components of thousands of everyday objects and products.

PEOPLE: OCCUPATIONAL ANALYSIS

Nearly eight percent, or 24,940, of the 322,000 workers in Greater Des Moines are employed in core occupations relevant to the Advanced Manufacturing target. As

shown in the following table, 62.3 percent of the evaluated occupations offer average annual wages that exceed the area's May 2009 average annual wage of \$42,120, covering over 12,950 workers. Twenty-eight percent of the occupations examined, covering 9,850 workers, have both location quotients of 1.0 or greater and average annual wages that exceed the metro average wage. Examples of these highly-concentrated, high-paying occupations are mobile heavy equipment mechanics, computer systems analysts, architects, structural iron and steel workers (which include wind turbine erectors), and numerical tool and process control programmers.

**Advanced Manufacturing Occupational Target: Farm Equipment,
Greater Des Moines, May 2009**

SOC code	Occupation	Employment			United States
		Des Moines MSA	Location Quotient	Des Moines MSA	
Total, all Occupations		322,000	1.00	\$42,120	\$43,460
Farm Equipment					
499042	Maintenance and Repair Workers General	2,290	0.73	\$34,650	\$36,520
512092	Team Assemblers	1,460	0.59	\$28,910	\$28,840
537051	Industrial Truck and Tractor Operators	1,350	0.96	\$28,810	\$31,240
493031	Bus and Truck Mechanics and Diesel Engine Specialists	970	1.69	\$42,040	\$41,590
512099	Assemblers and Fabricators All Other	770	1.17	\$26,600	\$32,280
514121	Welders Cutters Solderers and Brazers	620	0.70	\$36,950	\$36,630
131023	Purchasing Agents Exc. Wholesale Retail & Farm Products	570	0.82	\$48,300	\$58,550
514041	Machinists	520	0.55	\$39,590	\$38,940
512041	Structural Metal Fabricators and Fitters	380	1.59	\$29,590	\$35,080
493042	Mobile Heavy Equipment Mechanics Except Engines	360	1.21	\$45,710	\$45,630
499041	Industrial Machinery Mechanics	360	0.53	\$44,020	\$46,160
131022	Wholesale and Retail Buyers Except Farm Products	260	0.90	\$44,010	\$55,480
514111	Tool and Die Makers	120	0.66	\$46,790	\$48,730
493053	Outdoor Power Equipment and Other Small Engine	110	1.72	\$31,080	\$30,400
514081	Multiple Machine Tool Setters Operators and Tenders Metal and Plastic	110	0.59	\$30,610	\$32,860
499043	Maintenance Workers Machinery	100	0.61	\$38,580	\$39,570
537011	Conveyor Operators and Tenders	100	1.05	\$27,660	\$30,350
131021	Purchasing Agents and Buyers Farm Products	80	2.78	\$63,670	\$62,450
519122	Painters Transportation Equipment	50	0.43	\$45,840	\$41,220
519123	Painting Coating and Decorating Workers	30	0.43	\$24,890	\$25,940
512031	Engine and Other Machine Assemblers	*	*	\$28,650	\$37,150
514072	Molding Coremaking and Casting Machine Setters	*	*	\$29,210	\$29,750

Source: U.S. Bureau of Labor Statistics.

- ✓ The largest occupation sub-sectors of the Advanced Manufacturing target are computer systems analysts (2,520), maintenance and repair workers (2,290), network and computer systems administrators (1,700), team assemblers (1,460), computer programmers (1,440), industrial truck and tractor operators (1,350), and first-line supervisors of production and operating workers (1,060). Those occupations that are key to the *Farm Equipment* niche—maintenance and repair workers, team assemblers, and industrial truck and tractor operators—earn average annual wages less than the regional average of \$42,120. However, occupations applied to the *Component*

Manufacturing and Installation niche—computer systems analysts, network and computer systems administrators, computer programmers, and first-line supervisors of production and operating workers—earn above average wages.

- ✓ The target's occupations with the highest concentration in Greater Des Moines are purchasing agents and buyers of farm products (2.78), pipelayers (2.31), structural iron and steel workers (2.18), and network and computer systems administrators (2.04). All of these occupations earn average annual wages greater than the regional average.
- ✓ The highest earning occupations in the Advanced Manufacturing target are managerial positions: computer and information systems managers (\$105,810), industrial production managers (\$100,890), and engineering managers (\$100,720). The lowest earning occupations are production and technician positions.

**Advanced Manufacturing Occupational Target: Component Mfg & Installation,
Greater Des Moines, May 2009**

SOC code	Occupation	Employment			United States
		Des Moines MSA	Location Quotient	Des Moines MSA	
Total, all Occupations		322,000	1.00	\$42,120	\$43,460
Component Manufacturing and Installation					
151051	Computer Systems Analysts	2,520	1.99	\$73,010	\$80,430
151071	Network and Computer Systems Administrators	1,700	2.04	\$69,280	\$70,930
512092	Team Assemblers	1,460	0.59	\$28,910	\$28,840
151021	Computer Programmers	1,440	1.59	\$70,970	\$74,690
511011	First-Line Supervisors/Managers of Production and Operating Workers	1,060	0.71	\$60,500	\$55,150
113021	Computer and Information Systems Managers	890	1.26	\$105,810	\$120,640
512099	Assemblers and Fabricators All Other	770	1.17	\$26,600	\$32,280
151081	Network Systems and Data Communications Analysts	700	1.26	\$73,010	\$76,560
514121	Welders Cutters Solderers and Brazers	620	0.70	\$36,950	\$36,630
514041	Machinists	520	0.55	\$39,590	\$38,940
172051	Civil Engineers	450	0.70	\$79,140	\$81,180
171011	Architects Except Landscape and Naval	420	1.68	\$73,870	\$78,880
151061	Database Administrators	390	1.46	\$74,480	\$74,290
512041	Structural Metal Fabricators and Fitters	380	1.59	\$29,590	\$35,080
499041	Industrial Machinery Mechanics	360	0.53	\$44,020	\$46,160
472221	Structural Iron and Steel Workers	350	2.18	\$45,060	\$48,470
499051	Electrical Power-Line Installers and Repairers	310	1.15	\$49,440	\$55,860
472211	Sheet Metal Workers	300	0.83	\$42,360	\$44,890
172141	Mechanical Engineers	290	0.51	\$70,720	\$80,580
172112	Industrial Engineers	280	0.54	\$66,150	\$77,090
472151	Pipelayers	280	2.31	\$42,820	\$37,040
113051	Industrial Production Managers	250	0.69	\$100,890	\$93,650
173023	Electrical and Electronic Engineering Technicians	240	0.63	\$53,990	\$55,410
473015	Helpers--Pipelayers Plumbers Pipefitters and Steamfitters	220	1.31	\$28,210	\$27,530
512023	Electromechanical Equipment Assemblers	210	1.51	\$33,820	\$31,700
537021	Crane and Tower Operators	200	1.99	\$47,390	\$47,700
173022	Civil Engineering Technicians	190	0.93	\$42,340	\$47,420
537032	Excavating and Loading Machine and Dragline Operators	140	0.98	\$47,990	\$38,540
173013	Mechanical Drafters	130	0.73	\$42,670	\$49,790
474041	Hazardous Materials Removal Workers	130	1.28	\$32,040	\$40,270
512022	Electrical and Electronic Equipment Assemblers	130	0.27	\$29,900	\$30,690
514031	Cutting Punching and Press Machine Setters Operators	130	0.25	\$35,450	\$30,480
172071	Electrical Engineers	120	0.32	\$65,440	\$86,250
514032	Drilling and Boring Machine Tool Setters Operators and Tenders Metal and Plastic	120	1.73	*	\$32,940
514111	Tool and Die Makers	120	0.66	\$46,790	\$48,730
172072	Electronics Engineers Except Computer	120	0.36	\$86,350	\$91,540
119041	Engineering Managers	110	0.25	\$100,720	\$122,810
514081	Multiple Machine Tool Setters Operators and Tenders	110	0.59	\$30,610	\$32,860
537011	Conveyor Operators and Tenders	100	1.05	\$27,660	\$30,350

Source: U.S. Bureau of Labor Statistics.

**Advanced Manufacturing Occupational Target: Component Mfg & Installation, cont'd,
Greater Des Moines, May 2009**

SOC code	Occupation	Employment			United States
		Des Moines MSA	Location Quotient	Des Moines MSA	
Total, all Occupations		322,000	1.00	\$42,120	\$43,460
Component Manufacturing and Installation, continued					
514035	Milling and Planing Machine Setters Operators and Tenders Metal and Plastic	90	1.54	\$30,290	\$36,190
172111	Health and Safety Engineers Except Mining Safety	70	1.18	\$56,820	\$75,810
173026	Industrial Engineering Technicians	60	0.37	\$39,950	\$49,030
518021	Stationary Engineers and Boiler Operators	60	0.65	\$42,690	\$52,040
171012	Landscape Architects	50	1.07	\$62,640	\$65,910
173019	Drafters All Other	50	1.11	\$44,830	\$48,210
173031	Surveying and Mapping Technicians	50	0.32	\$45,920	\$39,470
172199	Engineers All Other	40	0.10	\$64,520	\$90,600
514012	Numerical Tool and Process Control Programmers	40	1.05	\$44,110	\$48,230
172021	Agricultural Engineers	*	*	\$63,730	\$74,640
173027	Mechanical Engineering Technicians	*	*	\$44,550	\$50,700
173029	Engineering Technicians Except Drafters All Other	*	*	\$62,490	\$58,330
475021	Earth Drillers Except Oil and Gas	*	*	\$43,970	\$42,070
499012	Control and Valve Installers and Repairers Except Mechanical Door	*	*	\$50,230	\$47,860
514011	Computer-Controlled Machine Tool Operators Metal and Plastic	*	*	\$30,860	\$35,570
514021	Extruding and Drawing Machine Setters Operators and Tenders Metal and Plastic	*	*	\$22,130	\$32,320
514072	Molding Coremaking and Casting Machine Setters	*	*	\$29,210	\$29,750
518092	Gas Plant Operators	*	*	\$56,420	\$55,860
518099	Plant and System Operators All Other	*	*	\$45,950	\$49,860
519012	Separating Filtering Clarifying Precipitating and Still Machine Setters Operators and Tenders	*	*	\$29,730	\$38,450

Source: U.S. Bureau of Labor Statistics

Advanced Manufacturing Occupational Target, Central Iowa, May 2009

SOC code	Occupation	Des Moines + Ames MSA			U.S.
		Employment	Location Quotient	Average Annual Wage	Average Annual Wage
	Total, all Occupations	364,090	1.00	\$41,955	\$43,460
110000	Management Occupations	17,870	1.05	\$92,461	\$102,900
150000	Computer and Mathematical Science Occupations	12,990	1.41	\$67,159	\$76,290
170000	Architecture and Engineering Occupations	4,090	0.61	\$63,239	\$73,590
470000	Construction and Extraction Occupations	14,210	0.89	\$41,704	\$43,350
490000	Installation Maintenance and Repair Occupations	13,960	0.98	\$41,958	\$42,210
510000	Production Occupations	*	*	*	\$33,290
530000	Transportation and Material Moving Occupations	21,910	0.89	\$31,788	\$32,180

Source: U.S. Bureau of Labor Statistics. Data refers to May 2009.

- ✓ When the Ames MSA is included in the analysis, clear strengths emerge in computer and mathematical science occupations, which has an LQ of 1.41,

and management occupations, which has an LQ of 1.05. All of these occupational categories earn average annual wages that exceed the Des Moines and Ames combined regional average of \$41,955. In fact, the only occupational category that offers average annual wages less than the regional average is transportation and material moving occupations (\$31,788). Construction and extraction occupations have an average annual wage on par with the combined region (\$41,704).

Workforce Development

The projected growth in this sector will require the workforce to develop new skill sets and knowledge. The degrees granted and training offered in Central Iowa are indications of how the region will be able to take advantage of future Advanced Manufacturing employment.

According to the National Center for Education Statistics, 42 percent of the degrees and certificates awarded from 2005-2009 in Advanced Manufacturing-supporting programs were engineering degrees and engineering technologies/technicians degrees and certificates; another 22 percent were in agriculture, agriculture operations, and related sciences, while nine percent were in computer and information sciences and support services.

The majority of target sector related degrees/certificates were earned at the bachelor's degree level (66 percent); master's degrees accounted for another 14 percent, and associate degrees for 10 percent. Over the five-year period from 2005-09, doctoral and professional degrees comprised four percent of all degrees/certificates awarded in sector-related programs, while certificates below the baccalaureate level comprised six percent.

The science-, agriculture-, and technology-based degrees offered in Central Iowa's postsecondary institutions provide an excellent spring board for building a skilled and educated base of workers in Advanced Manufacturing. Additional academic and training specializations, especially at the certificate and associate's degree levels will enable Central Iowa to apply the specific technology, skills, and knowledge needed to sustain a competitive local workforce in this emerging target.

**Central Iowa Degrees and Certificates Awarded in Advanced Manufacturing Disciplines,
2005-2009**

<i>Major</i>	<i>Certificates below the baccalaureate</i>	<i>Associate</i>	<i>Bachelor</i>	<i>Certificates above the baccalaureate</i>	<i>Master'</i>	<i>Doctoral/Professional Degree</i>	<i>Total</i>
Agriculture, agriculture operations, and related sciences	195	124	2,056	-	288	76	2,739
Architecture and related services	-	-	628	-	138	-	766
Computer and information sciences and support services	65	316	495	1	177	14	1,068
Construction trades	118	19	-	-	-	-	137
Engineering technologies/technicians	24	187	-	-	-	-	211
Engineering	-	31	3,994	-	866	208	5,099
Mathematics and statistics	-	-	355	-	176	47	578
Mechanic and repair technologies/technicians	123	506	-	-	-	-	629
Natural resources and conservation	-	-	343	-	64	11	418
Physical sciences	-	-	405	-	71	108	584
Precision production	271	53	-	-	-	-	324
<i>Grand total</i>	<i>796</i>	<i>1,236</i>	<i>8,276</i>	<i>1</i>	<i>1,780</i>	<i>464</i>	<i>12,553</i>

Source: National Center for Education Statistics, IPEDS Database

Note: Included in this analysis are all two and four-year public and private, not-for-profit colleges and universities in the Central Iowa region.

- Iowa State University's College of Engineering offers a number of degree programs supportive of Advanced Manufacturing. These include:
 - The Department of Civil, Construction and Environmental Engineering offers a Bachelor of Science, Master and PhD in construction engineering with emphases in building, heavy/highway, mechanical and electrical engineering.
 - The Department of Electrical and Computer Engineering offers Electrical Engineering bachelors, masters and PhD degrees with potential focus areas in: Electric Power and Energy Systems, Microelectronics and Photonics, and Systems and Controls.
 - The Department of Industrial and Manufacturing Systems Engineering offers undergraduate, graduate and PhD programs in Industrial Engineering and a Masters in Systems Engineering.
 - The Department of Materials Science and Engineering offers degrees at all levels in polymers, metals and electronics.
 - The Department of Mechanical Engineering offers Bachelors, Masters and PhD degrees in Mechanical Engineering with the following potential focus areas: Energy Cultivation, Manufacturing, and Engineering Design and Analysis.
- Iowa State's Industrial Technology program incorporates subject areas such as Lean Manufacturing, Six Sigma, automation, electronics, computer numerical control (CNC), safety management, loss prevention, industrial hygiene, occupational safety and other elements of production processes.

- Des Moines Area Community College offers the following: Diesel Equipment Mechanic Program; Electronics, Robotics and Automation Program; Tool and Die Program; Welding Program.

PROSPERITY: BUSINESS SECTOR ANALYSIS

Regional Advanced Manufacturing companies in the Farm Equipment niche include Vermeer, one of the world's largest manufacturers of farm equipment; John Deere Des Moines Works, makers of cotton harvesting, tillage, and planting equipment; and Firestone Agricultural Tire Company and Titan Tire Corporation, manufacturers and distributors of tires for agricultural and farm equipment. Sauer-Danfoss is a global company that produces engineered hydraulic and electronic components used in off-highway vehicles. The Ames-based Hach Company manufactures and distributes analytical instruments and reagents used to test the quality of water and other aqueous solutions. Ball, also headquartered in the Ames area, manufactures metal food and beverage containers and designs and markets aerospace technology products and services.

The region has a number of major employers in the Components category, including MidAmerican Energy Holdings Company, an international leader in the production of energy from diversified fuel sources and the nation's largest investor-owned utility wind generator. MidAmerican is purchasing 258 turbines from Siemens and will locate them near the state's wind farms, increasing the company's wind capacity from 1,284 megawatts to over 1,877 megawatts (one megawatt can power between 250 and 500 homes). Other employers are Goian North America, Keystone Electrical Manufacturing, Trinity Structural Towers, and TPI Composites.

While this section of the report classifies jobs in terms of NAICS codes, it should be noted that it is difficult to quantify alternative energy employment as is required for the *Components Manufacturing and Installation* niche. The Bureau of Labor Statistics and its partners are currently working to reclassify many business functions within the North American Industry Classification System (NAICS) in order to better track the impacts of the alternative-energy economy, which includes energy components. As such, the included NAICS codes presented here may cast a wider net than actually intended.

The following table shows the region's employment and wages for the target business sectors relevant to the Advanced Manufacturing target cluster in the second quarter of 2010. There are over 20,200 jobs in the sectors evaluated, representing five percent of all jobs in the region. Many jobs in this target offer average annual wages that surpass the region's second quarter 2010 average annual wage of \$41,655-- all subsectors in the *Farm Equipment* niche provide average annual wages that exceed the regional average wage. However, several subsectors in the *Components Manufacturing and Installation* niche do not. Despite this, the target's average annual wage is \$53,083, or 27 percent higher than the regional average annual wage. The target's average location quotient is already strong at 1.46.

Central Iowa Advanced Manufacturing Target by business subsector, 2Q 2010

Industry Code	Industry Title	2Q2010 Emp	Location Quotient	2010 AAW	1-Yr Emp % Change	5-Yr Emp % Change	US 5-Yr Emp % Change	1-Yr AAW % Change	5-Yr AAW % Change	US 5-Yr AAW % Change
Total Across All Sectors		410,165	1.00	\$41,655	-1.4%	1.1%	-2.5%	3.2%	15.7%	15.1%
Farm Equipment										
3331	Agriculture, construction, and mining machinery mfg~	5,091	7.70	\$47,973	n/a	n/a	-1.0%	n/a	n/a	-9.8%
333111	Farm machinery and equipment manufacturing~	2,471	14.12	\$54,819	n/a	n/a	-8.8%	n/a	n/a	22.1%
424910	Farm supplies merchant wholesalers~	3,100	8.60	\$64,493	n/a	n/a	-0.7%	n/a	n/a	18.6%
4238	Machinery, equipment, and supplies merch whslrs~	2,459	1.17	\$50,811	n/a	n/a	4.0%	n/a	n/a	-9.0%
423820	Farm and garden equip. merchant wholesalers~	916	2.94	\$49,129	n/a	n/a	-4.3%	n/a	n/a	18.1%
3332	Industrial machinery manufacturing~	443	1.13	\$44,970	n/a	n/a	21.7%	n/a	n/a	-5.8%
333294	Food product machinery manufacturing~	209	4.20	\$53,241	n/a	n/a	-14.0%	n/a	n/a	17.5%
Components Manufacturing and Installation										
3331	Agriculture, construction, and mining machinery mfg~	5,091	7.70	\$47,973	n/a	n/a	-1.0%	n/a	n/a	-9.8%
5416	Management, scientific, and technical consulting svcs	1,551	0.58	\$56,029	-3.2%	-2.4%	4.0%	5.1%	16.8%	-9.0%
54133	Engineering services	1,245	0.42	\$60,659	-6.6%	15.0%	5.6%	1.3%	15.0%	22.5%
3329	Other fabricated metal manufacturing~	1,225	1.54	\$57,962	n/a	n/a	-12.7%	n/a	n/a	17.6%
81131	Commercial machinery repair and maintenance	726	1.30	\$50,667	8.4%	219.2%	2.6%	11.2%	18.6%	19.6%
92412	Administration of conservation programs	710	0.98	\$54,185	n/a	-8.2%	0.1%	n/a	0.7%	18.9%
33231	Plate work and fabricated structural products~	659	1.42	\$47,804	n/a	n/a	-13.3%	n/a	n/a	17.4%
33232	Ornamental and architectural metal products~	617	1.12	\$34,636	n/a	n/a	-24.1%	n/a	n/a	17.4%
33451	Electronic instrument manufacturing	591	0.46	\$53,774	7.3%	1.4%	-6.4%	-2.1%	13.4%	16.2%
3335	Metalworking machinery manufacturing~	361	0.74	\$39,790	n/a	n/a	-23.5%	n/a	n/a	10.2%
81121	Electronic equipment repair and maintenance+	350	1.13	\$73,996	2.1%	22.0%	-8.3%	30.5%	39.5%	13.7%
23713	Power and communication system construction~	338	0.81	\$55,677	n/a	n/a	4.0%	n/a	n/a	24.9%
32611	Plastics packaging materials, film and sheet	246	0.96	\$58,221	n/a	14.2%	-8.9%	n/a	-21.3%	12.9%
3344	Semiconductor and other electronic component mfg~	215	0.18	\$26,720	n/a	n/a	-17.5%	n/a	n/a	21.9%
3336	Engine, turbine, and power transmission equip mfg~	200	0.70	\$43,853	n/a	n/a	-8.4%	n/a	n/a	18.6%
54135	Building inspection services	79	1.48	\$31,044	-4.4%	52.9%	-5.3%	-7.9%	-12.8%	17.3%
54137	Other surveying and mapping services	20	0.15	\$46,451	-6.3%	n/a	-34.0%	9.2%	n/a	16.7%

Source: U.S. Bureau of Labor Statistics, unless noted. See Methodology for details.

+ Data reflects QCEW data for Polk County and QWI data for Marshall County

~ Decision Data Estimate

- ✓ The largest employment sub-sectors within the Advanced Manufacturing target are primarily in the *Farm Equipment* niche: agriculture, construction, and mining machinery manufacturing (5,091), which includes farm machinery and equipment manufacturing (2,471); farm supplies merchant wholesalers (3,100); machinery, equipment, and supplies merchant wholesalers (2,459). The *Components Manufacturing and Installation* niche has high employment numbers in the following subsectors: management, scientific, and technical consulting services (1,551); engineering services (1,245); and other fabricated metal manufacturing (1,225). Of these, only management, scientific, and technical consulting services and engineering services have LQs less than 1.0. All of these sectors provide average annual wages greater than the regional average of \$41,655.
- ✓ One major justification for the Advanced Manufacturing target is the existing job concentrations, particularly in the *Farm Equipment* niche, in which all examined subsectors have location quotients greater than 1.0. The region has its highest concentrations of jobs in farm supplies merchant wholesalers

(8.60); agriculture, construction, and mining machinery manufacturing (7.70), which includes farm machinery and equipment manufacturing (14.12); food product machinery manufacturing (4.20); and farm product raw material merchant whole. All of these provide average annual wages that exceed than the regional average.

- ✓ The highest-earning subsectors include; electronic equipment repair and maintenance (\$73,996); farm supplies merchant wholesalers (\$64,493); and engineering services (\$60,659).

PLACE: CENTRAL IOWA'S DYNAMICS

While Greater Des Moines is more known for its strengths in finance and insurance, government and health care than manufacturing, areas in the Central Iowa region have traditionally relied heavily on production of goods to sustain their local economies. While some of this employment has gone away in the past decade (including Maytag in Newton and others), a number of manufacturers have survived and some even thrived in Central Iowa.

With thousands of acres dedicated to agriculture, there is not as much available land for heavy-industrial manufacturing in Central Iowa as in many other regions. Plus, the oftentimes high value of ag land can be a disincentive to the purchase of acreage for conversion to manufacturing uses. So too are the tax advantages for owners of agricultural land built into the Iowa tax code. Nevertheless, the geographic advantages provided by proximity to raw materials and purchasers of farm equipment have enabled a core group of Advanced Manufacturers to continue creating jobs and investment in Central Iowa. It could be that geographic factors – abundance of wind, competitive amount of sunlight – will one day seed the development of a manufacturing niche in Central Iowa. Strategies to ensure that parts and components for wind and solar energy production are manufactured in the same location as they are designed (at Iowa State and Ames Laboratories) and utilized (in Iowa wind farms) will be key to capitalizing on the potential of this growing niche.

A number of centers and facilities affiliated with Iowa State University support the Advanced Manufacturing target and its niches. These include:

- **Ames Laboratory** focus areas include:
 - Division of Materials Sciences and Engineering - The Division of Materials Sciences and Engineering (DMSE) supports the majority of basic research conducted at Ames Laboratory. DMSE encompasses a research spectrum that includes the design of new materials that could positively impact energy technologies.
 - Simulation, Modeling & Decision Science - The program works to model the engineered, human, and natural systems. The approach seeks to address issues of energy system design, environmental impact, and sustainability.

- The **Center for Industrial Research and Service** supports Advanced Manufacturing through industrial research, online courses, and hosted events. The Center manages ISU's Manufacturing Extension Partnerships and the Procurement Technical Assistance Program
- The **Combinatorial Sciences and Materials Informatics Collaboratory** (CoSMIC) is an international research and education center promoting the use of informatics and combinatorial experimentation for materials discovery and design. Based at Iowa State University, it has partners at Florida International University, University of Maryland, University of Puerto Rico, Mayaguez, and the Kent State University led NSF Materials Digital Library (MatDL) Pathway consortium.
- Research at the **Information Infrastructure Institute** (iCUBE) leverages infrastructure systems to develop information solutions for energy systems, safety critical avionics systems, agricultural engineering systems, water and agriculture systems, numerical weather prediction models, transportation, and networks and earthquake engineering simulation.
- As previously noted, the **Institute for Physical Research and Technology** (IPRT) is a network of scientific research centers at Iowa State University that provides a wide variety of technical assistance to Iowa companies and works closely with Ames Laboratory. Centers under IPRT with application to Advanced Manufacturing include:
 - Center for Catalysis (CCAT)
 - Center for Nondestructive Evaluation (CNDE)
 - Center for Physical & Computational Mathematics (CPCM)
 - Materials Preparation Center (MPC)
 - Microelectronics Research Center (MRC)
 - Virtual Reality Applications Center (VRAC)
 - William E. and Lenore F. Catron Center for Solar Energy Research
- Providing support for manufacturers is the **Center for Industrial Research and Service**, the industrial extension arm of ISU. The Center provides industrial research, offers online courses, and hosts events in order to enhance the performance of Iowa industry. The Center also manages the Manufacturing Extension Partnership program and the Procurement Technical Assistance Program.

The statewide **Office of Energy Independence** includes dynamics of wind and solar-derived energy under its purview.

Iowa incentives for Advanced Manufacturing and its niches include the Iowa Power Fund (currently under review), Grow Iowa monies, Demonstration Funds, and Supply Chain Development projects in the targeted industries of advanced manufacturing. The full suite of state incentives and tax abatements are also available for qualifying prospects.

TARGET CLUSTER: LOGISTICS

Justification

- Geographic location central to major Midwestern markets
- Presence of three Class I rail lines
- Des Moines International Airport is Iowa's only Port of Entry
- East/west and north/south interstate highway connectivity
- Established Foreign Trade Zone (FTZ) in City of Clive
- High concentrations and wages in wholesale trade employment
- Logistics and Supply Chain Management degree at Iowa State

Challenges

- No multi-modal trans-load facilities in Central Iowa
- Comparatively low concentration of manufacturing employment limits distribution potential
- Potentially high cost of conversion of agricultural land to large-scale warehouse and distribution sites
- Strong competition from Kansas City SmartPort and other high-capacity inland port operations in Omaha, Minneapolis-St. Paul and Chicago

Opportunities

- Development of inter-modal shipping capacity
- Marketing of Central Iowa as a low-cost warehousing and distribution alternative to major adjacent Midwestern regions
- Working with existing employers to optimize logistics processes and identify markets for product import and export
- Leveraging local research capacity in virtual reality technologies and systems engineering for logistics purposes
- Increasing the number of degree programs applicable to logistics employment

Target Overview

The Logistics target does not include specific niche areas but seeks to leverage Central Iowa's strengths in trucking, rail, warehousing, and wholesale trade and its position as place of growth and investment in Iowa and the Midwest. Logistics not only has strong connections with the Agribusiness and Advanced Manufacturing targets, it plays a key role supporting business development across all economic sectors.



Logistics is the core of strategic supply chain management. An effective supply chain network is critical to profitability for businesses across all sectors because just-in-time inventory strategies are now commonplace among most national retailers, manufacturers, and service providers. To maintain lean operations, businesses have decreased the volume of in-process inventory and instead rely on express just-in-time shipments from suppliers to improve flexibility, efficiency, and return on investments. Current technology allows businesses to track the location of individual vehicles via satellite and use refrigerated units to provide computerized feedback on specific operational times and temperatures. Advanced in-house technology and handheld wireless devices in the field also greatly streamline inventory maintenance operations and expand the more traditional field of transportation and warehousing to include scheduling, supply chain management, fleet management, network optimization, and other processes.

Components of the Logistics sector which Central Iowa is most competitive for include the following areas:

- Freight hauling: These firms haul a wide variety of commodities which are palletized and transported in a container. These businesses provide a combination of supply chain management activities, including local pickup and delivery, sorting, and line-haul. This area focuses on opportunities in trucking and rail delivery.
- Warehousing: This subsector includes establishments that operate merchandise warehousing and storage facilities. While some firms provide specialized facilities, such as those that are refrigerated or accommodate farm products, most firms in this area provide general storage for boxes, barrels, drums, equipment, and pallets.
- Logistics management: These firms provide assistance to businesses in manufacturing operations improvements, productivity improvement, production planning, quality assurance, inventory management, distribution networks, warehouse use and operations, and materials management.
- Merchant wholesalers: This area encompasses wholesalers and brokers of the merchandise central to the supply chain including non-durable goods (products with less than a three-year life span, such items would include

clothing, personal products, and food) and durable goods (such as motor vehicles, furniture, construction materials, sporting goods, and recyclable materials).

Key issues affecting the national and regional performance of the Logistics industry include consumer confidence, oil prices, and cargo safety.

- As U.S. consumer confidence is projected to improve with brighter economic prospects and shipments of durable and nondurable goods increase to pre-recession levels, growth in Logistics subsectors, particularly freight haulers, are expected to remain relatively strong in the long term. According to the U.S. Census Bureau, purchases of goods and services in transportation, wholesale trade, and warehousing comprised 8.7 percent of the Gross Domestic Product (GDP) in 2008. Comparable metro level data suggests that these market segments comprise at least 8.95 percent of the Des Moines metro GDP.
- The price of oil affects the profitability of firms within this target. According to the U.S. Energy Information Administration, crude oil prices climbed between 2000 and 2008 from less than \$20 per barrel to more than \$135 per barrel. The Great Recession caused prices to come down, but prices are expected to rise with economic recovery. In February 2011, crude oil was priced at \$94 per barrel.
- Another issue that has come to the forefront is safety. More rigorous inspection standards and the use of technology, including radio frequency identification tags, are being employed to insure greater safety. However, due to the sheer volume of goods that are moved in, out, and throughout the nation on a daily basis, there remain serious concerns about cargo security within the Transportation and Logistics sector.

PEOPLE: OCCUPATIONAL ANALYSIS

Over 45,000 of the 322,000 workers in Greater Des Moines are employed in core occupations relevant to the Logistics target. In other words, 14 percent of metro workers exercise the skills needed to succeed in this target. As shown in the following table, 52 percent of the evaluated occupations offer average annual wages that exceed the area's May 2009 average annual wage of \$42,120. Over 26 percent of the occupations examined have both location quotients of 1.0 or greater and average annual wages that exceed the metro figure. These highly concentrated, high-paying occupations include commercial pilots; mobile heavy equipment mechanics except engines; purchasing agents and buyers of farm products; sales representatives; and transportation, storage, and distribution managers.

- ✓ The largest occupational sub-sectors of the Logistics target are laborers and freight stock and material movers (5,400), heavy and tractor-trailer truck drivers (4,920), stock clerks and order fillers (4,110), and wholesale and

manufacturing sales representatives (4,100). Each of these, with the exception of stock clerks and order fillers, has location quotients greater than one.

- ✓ The occupations with the highest concentration in Greater Des Moines are purchasing agents and buyers of farm products (2.78); mail clerks and mail machine operators (2.65); postal service mail sorters, processors, and processing machine operators (2.52); crane and tower operators (1.99); bus and track mechanics and diesel engine specialists (1.69); commercial pilots (1.67); and tire repairers and changers (1.67). Besides mail clerks and tire repairers, these occupations provide average wages that exceed the metro average.
- ✓ The three highest-earning occupations in this target are all sales-related: sales engineers (\$112,160), sales managers (\$102,150), and wholesale and manufacturing sales representatives (\$99,870).

Logistics Occupational Target, Greater Des Moines, May 2009

SOC code	Occupation	Des Moines MSA			U.S.
		Employment	Location Quotient	Average Annual Wage	Average Annual Wage
Total, all Occupations		322,000	1.00	\$42,120	\$43,460
537062	Laborers and Freight Stock and Material Movers Hand	5,400	1.03	\$24,320	\$25,290
533032	Truck Drivers Heavy and Tractor-Trailer	4,920	1.29	\$41,410	\$39,260
435081	Stock Clerks and Order Fillers	4,110	0.89	\$23,370	\$23,460
414012	Sales Representatives Wholesale and Manufacturing	4,100	1.18	\$59,360	\$61,400
411011	First-Line Supervisors/Managers of Retail Sales Workers	2,950	1.03	\$38,890	\$39,130
533033	Truck Drivers Light or Delivery Services	1,870	0.91	\$31,800	\$31,120
537051	Industrial Truck and Tractor Operators	1,350	0.96	\$28,810	\$31,240
493023	Automotive Service Technicians and Mechanics	1,330	0.89	\$41,580	\$37,880
537064	Packers and Packagers Hand	1,060	0.61	\$22,940	\$21,780
435053	Postal Service Mail Sorters Processors and Processing Machine Operators	1,010	2.52	\$48,670	\$48,260
435071	Shipping Receiving and Traffic Clerks	990	0.56	\$33,790	\$29,840
493031	Bus and Truck Mechanics and Diesel Engine Specialists	970	1.69	\$42,040	\$41,590
414011	Sales Representatives Wholesale and Manufacturing	910	0.91	\$99,870	\$81,370
491011	First-Line Supervisors/Mgrs of Mechanics Installers & Repairers	910	0.86	\$59,930	\$60,630
439051	Mail Clerks and Mail Machine Operators Except Postal	860	2.65	\$26,340	\$27,150
537061	Cleaners of Vehicles and Equipment	860	1.17	\$24,410	\$22,110
112022	Sales Managers	840	1.04	\$102,150	\$111,570
411012	First-Line Supervisors/Mgrs of Non-Retail Sales Workers	740	1.15	\$83,650	\$79,610
435052	Postal Service Mail Carriers	650	0.78	\$49,740	\$48,940
434151	Order Clerks	630	1.13	\$35,150	\$29,890
435061	Production Planning and Expediting Clerks	610	0.90	\$41,550	\$43,260
412022	Parts Salespersons	580	1.13	\$35,410	\$30,460
131023	Purchasing Agents Exc. Wholesale Retail & Farm Products	570	0.82	\$48,300	\$58,550
533031	Driver/Sales Workers	540	0.60	\$32,150	\$26,690
531031	First-Line Supervisors/Mgrs of Transportation & Material-Moving Machine & Vehicle Operators	480	0.95	\$52,430	\$54,750
493021	Automotive Body and Related Repairers	450	1.37	\$42,420	\$41,020
493093	Tire Repairers and Changers	380	1.67	\$24,390	\$24,610
493042	Mobile Heavy Equipment Mechanics Except Engines	360	1.21	\$45,710	\$45,630
113071	Transportation Storage and Distribution Managers	310	1.36	\$65,900	\$85,470
531021	First-Line Supervisors/Mgrs of Helpers Laborers & Material Movers Hand	270	0.63	\$42,040	\$45,250
131022	Wholesale and Retail Buyers Except Farm Products	260	0.90	\$44,010	\$55,480
419011	Demonstrators and Product Promoters	250	1.25	\$20,170	\$26,640
435021	Couriers and Messengers	240	1.04	\$23,710	\$25,710
537021	Crane and Tower Operators	200	1.99	\$47,390	\$47,700
435111	Weighers Measurers Checkers and Samplers	150	0.87	\$31,730	\$28,860
537032	Excavating and Loading Machine and Dragline Operators	140	0.98	\$47,990	\$38,540
493011	Aircraft Mechanics and Service Technicians	140	0.51	\$55,140	\$52,970
435051	Postal Service Clerks	130	0.72	\$52,730	\$51,670
532012	Commercial Pilots	120	1.67	\$63,960	\$73,060
419031	Sales Engineers	120	0.68	\$112,160	\$90,540
537011	Conveyor Operators and Tenders	100	1.05	\$27,660	\$30,350
131021	Purchasing Agents and Buyers Farm Products	80	2.78	\$63,670	\$62,450
119131	Postmasters and Mail Superintendents	70	1.14	\$59,150	\$59,600
532021	Air Traffic Controllers	50	0.83	\$85,380	\$106,990
435011	Cargo and Freight Agents	40	0.20	\$43,350	\$38,940

Source: U.S. Bureau of Labor Statistics. Data refers to May 2009.

Logistics Occupational Target, Central Iowa, May 2009

SOC code	Occupation	Des Moines MSA			U.S.
		Employment	Location Quotient	Average Annual Wage	Average Annual Wage
	Total, all Occupations	364,090	1.00	\$41,955	\$43,460
110000	Management Occupations	17,870	1.05	\$92,461	\$102,900
410000	Sales and Related Occupations	40,240	1.05	\$36,831	\$36,020
430000	Office and Administrative Support Occupations	66,500	1.07	\$32,971	\$32,990
490000	Installation Maintenance and Repair Occupations	13,960	0.98	\$41,958	\$42,210
530000	Transportation and Material Moving Occupations	21,910	0.89	\$31,788	\$32,180

Source: U.S. Bureau of Labor Statistics. Data refers to May 2009.

- ✓ Forty-four percent of workers in the combined Des Moines and Ames metro areas obtain the skills central to the Logistics target. However, the target's average annual wage (\$41,184) is slightly lower than the average annual wage of the combined geography (\$41,955).

Workforce Development

Degrees important to the Logistics target are highly concentrated at the bachelor's level (64 percent). Over 61 percent of degrees pertinent to this target cluster are business-related, and 26.3 percent are engineering degrees. Certificate and associate's degree opportunities are available in construction trades, engineering technologies/technicians, mechanic and repair technologies/technicians, and precision production.

Central Iowa Degrees and Certificates Awarded in Logistics Disciplines, 2005-2009

Major	Certificate below the baccalaureate	Associate	Bachelor	Certificate above the baccalaureate	Master	Doctoral/Professional Degree	Total
Business, management, marketing, and related support services	720	2,039	7,927	11	1,226	6	11,929
Computer and information sciences and support services	65	316	495	1	177	14	1,068
Construction trades	118	19	-	-	-	-	137
Engineering technologies/technicians	24	187	-	-	-	-	211
Engineering	-	31	3,994	-	866	208	5,099
Mechanic and repair technologies/technicians	123	506	-	-	-	-	629
Precision production	271	53	-	-	-	-	324
Grand total	1,321	3,151	12,416	12	2,269	228	19,397

Source: National Center for Education Statistics, IPEDS Database

Note: Included in this analysis are all two and four-year public and private, not-for-profit colleges and universities in the Central Iowa region.

- Iowa State University's Supply Chain Management program offered in its College of Business received an overall ranking of 12th out of 100 in the nation by the *Supply Chain Management Review*. ISU offers a bachelor's degree

program in Supply Chain Management, while doctoral candidates in the Business School may focus on management of supply chains.

- The program prepares students for professional careers with manufacturers, distributors, transportation carriers, logistics service providers, and consulting firms.
- Iowa State also offers a Master of Science degree in Transportation that incorporates fields such as city planning, engineering, economics, geographic information systems; and others in the study of transportation practices, design, optimization and planning.
- Des Moines Area Community College's Transportation Institute houses its Truck Driver Training program. The College's Transportation Institute Commercial Vehicle Operator Training Program has been certified by the Professional Truck Driver's Institute and offers day and evening classes, financial aid to qualified students, and access to recruiters from several trucking companies.
 - DMACC also offers programs in Diesel Maintenance and Diesel Technology.

PROSPERITY: BUSINESS SECTOR ANALYSIS

Logistics firms in Central Iowa include United Parcel Service of America which employs 1,600 workers in the region and operates a hub at Des Moines International Airport. Other notable firms in Central Iowa include trucking company Ruan, which operates nearly 6000 trailers from 160 nationwide locations and employs 4,670 workers company-wide; Jacobson Companies, which markets supply chain management solutions across all stages of the process; and TMC Transportation, the largest privately held flatbed carrier in the nation.

R&L Carriers is a 40-year-old Des Moines company that operates a fleet of nearly 13,000 tractors and trailers. Through its R&L Global Logistics subsidiary, the firm markets services in: air, rail and ocean shipping; warehousing; logistics solutions; customhouse brokerage; and trade show solutions.

GCommerce, founded in Des Moines in 2000, is a provider of Software-as-a-Service (SaaS) procurement solutions designed to improve distribution supply chain operations. GCommerce products facilitate real-time exchange of documents within the purchasing cycle between incompatible business systems and technologies.

The region's freight railroads are also important employers. The area has three Class I freight railroads, Burlington Northern Santa Fe, Norfolk Southern, and Union Pacific; as well as Iowa Interstate Railroad, a regional line that connects with the three Class I railroads.

The following table shows Central Iowa's employment and wages for the Logistics target business sectors in the second quarter of 2010. In the Central Iowa, there are 31,022 jobs in Logistics-specific sectors, representing 7.6 percent of all jobs in the

region. With the exception of two subsectors, scheduled air transportation and nonscheduled air transportation, the average annual wage for each sector surpasses regional average annual wage, resulting in a target average of \$52,544, or 26.1 percent higher than the regional average. Over the five-year period evaluated, the target's average annual wage has increased by 16 percent. Although this target has seen a 5.6 percent decline in employment between the second quarters of 2005 and 2010, growth in Logistics subsectors, particularly freight haulers, is expected to rise in the long term as U.S. consumer confidence improves.

- ✓ The Logistics target has significant employment in durable goods merchant wholesalers (9,116), nondurable goods merchant wholesalers (8,589), and truck transportation (5,499). The Agribusiness target works hand in hand with the Logistics target; merchant wholesalers subsectors with the highest employment numbers are miscellaneous nondurable goods (3,343) which is largely comprised of farm supplies; machinery, equipment, and supplies merchant wholesalers (2,459); professional and commercial equipment (1,835); and motor vehicle and motor vehicle parts (1,825). Another merchant wholesalers subsector with significant employment is grocery and related products (2,076).
- ✓ Central Iowa has high concentrations in rail transportation (35.58); farm product raw material merchant wholesalers (4.01); miscellaneous nondurable goods merchant wholesalers (2.85), which includes farm supplies (8.60); truck transportation (1.24); and machinery, equipment, and supplies merchant wholesalers (1.17), which includes farm and garden equipment (2.94).
- ✓ The target subsectors that provide the highest average annual wages are merchant wholesalers: drugs and druggists sundries (\$101,533), professional and commercial equipment and supplies (\$71,570); and miscellaneous nondurable goods (\$70,022).

Central Iowa Logistics Target by business subsector, 2Q 2010

Industry Code	Industry Title	2Q2010 Emp	Location Quotient	2010 AAW	1-Yr Emp % Change	5-Yr Emp % Change	US 5-Yr Emp % Change	1-Yr AAW % Change	5-Yr AAW % Change	US 5-Yr AAW % Change
Total Across All Sectors		410,165	1.00	\$41,655	-1.4%	1.1%	-2.5%	3.2%	15.7%	15.1%
Transportation and Logistics Management										
484	Truck transportation	5,499	1.24	\$43,047	-3.3%	-8.9%	10.3%	3.5%	8.8%	-4.9%
49111	Postal service	2,791	1.32	\$64,673	-2.6%	-10.1%	-14.8%	12.1%	19.3%	11.6%
49211	Couriers	1,746	1.18	\$37,046	-3.6%	-11.2%	-7.0%	2.6%	16.0%	17.2%
5416	Management, scientific, and technical consulting svcs	1,551	0.58	\$56,029	-3.2%	-2.4%	4.0%	5.1%	16.8%	-9.0%
493	Warehousing and storage	793	0.43	\$44,330	3.7%	-7.4%	-8.6%	8.3%	45.3%	-9.1%
488	Support activities for transportation	635	0.31	\$39,884	-9.2%	-11.9%	2.4%	3.8%	17.0%	-7.5%
48111	Scheduled air transportation	199	0.15	\$29,327	n/a	17.3%	-10.6%	n/a	8.7%	10.3%
48211	Rail Transportation*	68	35.58	*	*	*	5.9%	*	*	13.2%
48121	Nonscheduled air transportation	34	0.26	\$29,146	n/a	-31.8%	-10.0%	n/a	-19.1%	26.7%
Merchant Wholesalers										
423	Merchant wholesalers, durable goods	9,116	0.96	\$54,234	-2.2%	-5.1%	6.7%	4.5%	15.8%	-8.3%
4238	Machinery, equipment, and supplies merch whslrs~	2,459	1.17	\$50,811	n/a	n/a	4.0%	n/a	n/a	-9.0%
42382	Farm and garden equip. merchant wholesalers~	916	2.94	\$49,129	n/a	n/a	-4.3%	n/a	n/a	18.1%
4234	Professional & commercial equip and supplies mw	1,835	0.90	\$71,570	-1.6%	1.0%	3.0%	4.9%	14.1%	-10.6%
4231	Motor vehicle & motor vehicle parts & supplies mw	1,825	1.67	\$44,337	1.6%	2.1%	9.6%	12.2%	23.9%	-3.1%
4236	Electrical and electronic goods merch wholesalers	672	0.62	\$52,724	-2.5%	3.2%	5.6%	-1.1%	2.1%	-7.1%
4237	Hardware, & plumbing & heating equip & supplies mw	652	0.84	\$65,083	1.0%	-13.9%	5.9%	-3.3%	22.4%	-8.1%
4233	Lumber & other construction materials merch whslrs	614	0.76	\$47,362	-10.8%	-34.1%	25.2%	5.7%	12.1%	-3.5%
4239	Miscellaneous durable goods merchant wholesalers	560	0.63	\$40,629	6.1%	-13.3%	2.7%	3.8%	2.8%	-4.4%
4232	Furniture and home furnishing merch wholesalers	128	0.36	\$48,494	0.0%	-17.4%	15.3%	-4.0%	6.3%	-8.7%
424	Merchant wholesalers, nondurable goods	8,589	1.33	\$57,735	-2.5%	-1.0%	2.5%	1.3%	15.8%	-11.2%
4249	Miscellaneous nondurable goods merch wholesalers	3,343	2.85	\$70,022	-1.8%	0.5%	7.6%	6.9%	23.9%	-9.9%
42491	Farm supplies merchant wholesalers~	3,100	8.60	\$64,493	n/a	n/a	-0.7%	n/a	n/a	18.6%
4244	Grocery and related product merchant wholesalers	2,076	0.94	\$41,368	n/a	7.8%	-2.2%	n/a	5.7%	-9.2%
4245	Farm product raw material merchant wholesalers	925	4.01	\$44,164	-3.8%	2.2%	-0.5%	10.5%	23.8%	-25.8%
4248	Beer, wine, and distilled alcoholic beverage mw	538	1.16	\$49,785	5.8%	9.7%	-10.5%	4.1%	18.6%	-9.8%
4242	Drugs and druggists sundries merchant wholesalers	475	0.69	\$101,533	-21.1%	-17.8%	8.7%	-6.3%	23.6%	-18.2%
4246	Chemical and allied products merchant wholesalers	324	0.78	\$59,178	-6.9%	-23.6%	5.1%	5.5%	22.3%	-8.0%
4241	Paper and paper product merchant wholesalers	298	0.62	\$57,525	-15.5%	-38.4%	16.4%	5.1%	6.7%	-8.7%
4247	Petroleum and petroleum products merch wholesalers	140	0.44	\$46,512	15.3%	-2.1%	3.1%	1.4%	0.4%	-17.8%

Source: U.S. Bureau of Labor Statistics, unless noted. See Methodology for details.

*Rail transportation data is suppressed at all levels; thus, Reference USA was used to estimate current employment.

~ Decision Data estimate

PLACE: CENTRAL IOWA'S DYNAMICS

According to public input attained during the *Competitive Capacity Assessment* component of the process, Central Iowa's service by two major U.S. interstates – both north/south and east/west orientations – was cited by multiple input participants as a key competitive strength for the region. Many added that this capacity should be more effectively leveraged for growth in Central Iowa's transportation and logistics economy, adding that the region's strategic location central to the Minneapolis-St. Paul, Chicago, Kansas City and Omaha metros puts Greater Des Moines in a "sweet spot" for this sector. Central Iowa is also part of the NAFTA Corridor.

Des Moines International Airport is a top-50 U.S. facility in the movement of commercial cargo, accounts for roughly 90 percent of Iowa's air cargo tonnage, has on-site U.S. Customs and USDA inspectors as the Iowa's only Port of Entry, is a

second-day air hub for UPS and has over 1 million square feet of cargo aircraft parking area.

Central Iowa is also served by three Class 1 (BNSF, Norfolk Southern and Union Pacific) and one short-line (Iowa Interstate) railroads. This is tremendous capacity for a community of its size; none of the comparison communities in the Competitive Capacity Assessment had more than two Class I railroads serving their region.

Greater Des Moines is also home to Foreign Trade Zone (FTZ) #107 on Interstate 35/80 north of Des Moines International Airport. The FTZ allows certain types of merchandise to be imported, assembled and exported without going through formal customs procedures.

Regional leaders are looking to enhance Central Iowa's already strong multi-directional highway capacity through the re-designation of existing routes and the construction of additional roadways. In July 2010, the Des Moines Area Metropolitan Planning Organization sent a letter to the Iowa Department of Transportation to request the commissioning of an operational analysis study of the U.S. Highway 65/Iowa Highway 5 bypass south of Des Moines as a first step to determine if the existing corridor can be re-designated as an interstate highway. Polk County officials are also looking to build a freeway around the northeast side of Des Moines. The route would be a continuation of U.S. Highway 65 north of Interstate 80. The main purposes of the new highway would be to relieve congestion on existing interstates and promote growth in the I-35 corridor.

Research and policy centers supporting the Logistics cluster are found at Iowa State University. These are:

- The aforementioned **Information Infrastructure Institute** (iCUBE), that has applications to develop information solutions for transportation-related issues as well as its other focus areas.
- Located in the ISU Research Park, the Institute for Transportation (InTrans) is the University's focal point for transportation-related research and policy. InTrans performs transportation research for public and private agencies and companies; manages its own education program for transportation students; and conducts local, regional, and national transportation services and continuing education programs. Affiliated centers at InTrans include:
 - Bridge Engineering Center (BEC)
 - Center for Nanotechnology in Cementitious Systems (CNCS)
 - Center for Transportation Research and Education (CTRE)
 - Center for Weather Impacts on Mobility and Safety (CWIMS)
 - Earthworks Engineering Research Center (EERC)
 - Midwest Transportation Consortium (MTC)
 - National Center for Wood in Transportation Structures (NCWTS)
 - National Concrete Pavement Technology Center (CP Tech Center)

- Program areas are:
 - Asphalt Materials & Pavements Program
 - Construction Management & Technology
 - Iowa Local Technical Assistance Program
 - Statewide Urban Design and Specifications

Iowa provides incentives or direct assistance to companies in the Logistics cluster. Grow Iowa monies are available as well as funds for Supply Chain Development projects in the targeted industries of biosciences, IT and advanced manufacturing. The full suite of state incentives and tax abatements are also available for qualifying prospects.

MARKETING ANALYSIS

Economic development is an increasingly competitive business. Each year, thousands of communities vie for a handful of projects. Economic development organizations that succeed share several basic traits: Their initiatives are targeted, well-funded, and sufficiently staffed. They are backed by a supportive, positive community because they themselves have a strong local brand. Finally, they are guided by up-to-date internal and external marketing strategies.

TARGETED

Effective economic development organizations concentrate marketing efforts on a handful of key market segments, **typically no more than six**. This involves analyzing local strengths and challenges, and identifying audiences whose location needs align with the strengths. Target industries are those businesses whose location requirements align with local assets and whose investment in the community will result in long-term economic prosperity. Community improvements, such as workforce development or infrastructure investments, are based on target audience needs. Targeting focuses marketing dollars, helps define a region's brand identity, and results in a higher return on investment.

WELL-FUNDED

In a perfect world, grassroots initiatives and word of mouth promotion would be enough to attract businesses to a community. But the reality is that it takes money to compete. A look at economic development organizations (EDOs) across the country reveals that even the most bare bones marketing campaigns require a minimum of \$75,000 per year. Most organizations annually commit \$150,000 or more to marketing. Large regional efforts, such as Charlotte USA and the Greater Austin Chamber of Commerce, dedicate more than \$1 million per year to marketing. This is in addition to substantial overall operating budgets.

SUFFICIENTLY STAFFED

The budget figures cited above are for internal and external marketing activities. They do not include staff salaries or operational overhead. An effective program requires at least one full time marketing manager, and ideally additional research and target industry support. Most regional groups include additional staff responsible for investor relations, for example, or workforce development coordination.

MODEL PROGRAMS AND WEBSITES

Charlotte USA

www.charlotteusa.com/

Kansas City EDC

www.edckc.com/

Upstate SC Alliance

www.upstatealliance.com

Metro Denver EDC

www.metrodenver.org

STRONG LOCAL BRAND

An economic development organization is most effective when it is backed by a supportive group of local stakeholders. Building trust and buy-in to an EDO takes time, communication, and visionary leadership.

Generating a positive local brand identity requires most economic development directors to spend 50 percent or more of their time on internal marketing activities. This includes ongoing communication with investors, elected officials, business leaders, the media, and the community at large. The time they spend within the local community pays off. Residents are more likely to speak highly of their community to friends and colleagues. Media is more likely to pay attention to economic development news. Elected officials may endorse support business friendly policies, and investors continue funding the EDO.

Companies and site selectors can immediately detect whether a community's leadership works well together, and prefer to locate projects in places that do. Signs of local cooperation include shared messaging, single points of contact, coordinated and rehearsed prospect meetings, and friendly interaction. It is often up to the EDO to foster relationships and provide a vision that unites the community.

CAMPAIGN STRATEGIES

Long-range strategies are at the core of quality marketing campaigns. Marketing strategies are founded on community and target audience research. They provide a disciplined approach for executing marketing activities. Through its marketing, a community increases its name awareness and improves its perception, ultimately generating increased target audience investment.

It is critical to understand that a complete campaign is comprised of two distinct marketing strategies. The first directs the marketing of the community to external audiences. The second, but of equal importance, guides the promotion of the economic development organization within the community.

- External marketing includes all activities directed at informing target audiences about the community's competitive advantages. An external marketing or sales plan describes the campaign's objectives and the ideal marketing mix needed to access audiences.
- Internal marketing includes all activities that build name awareness and perception of the EDO within the community. It guides the EDO in establishing its brand, creating wide spread understanding of its role, and growing trust among stakeholders.

Both strategies are typically accompanied by a budget, calendar, and metrics to keep the campaign on track.

A community's internal and external audiences differ. External audiences include groups that the EDO would like to recruit to the community. Industry executives, site selectors, talent, and entrepreneurs are typical examples of external audiences. Internal audiences, on the other hand, include individuals that the EDO needs support from locally. Local businesses, politicians, reporters, non-profits, and residents may comprise an EDO's internal audiences.

The following sections assess the Greater Des Moines Partnership's marketing and offer recommendations for improving the program in the future.

Marketing Evaluation

The Greater Des Moines Partnership's current marketing program accomplishes all of the factors described above, with few exceptions. Overall, the Partnership's marketing activities are:

- Thematically consistent
- Highly targeted
- Professionally designed
- Creative

Our largest criticism of the website and marketing collateral that we reviewed relates to the sheer volume of materials and target focus. The large number of printed pieces will make it difficult and expensive for the Partnership to keep current. Easy access to current data about the region is the primary concern of most site selectors and relocating and expanding businesses. It is essential that the Partnership evaluate its capacity for keeping information updated and consider moving most of its marketing initiative to the Web and electronic formats.

In addition, we see an opportunity for the Partnership to further refine its marketing messaging to address specific target audiences. With *Market Street's* target strategy in place, the next step will be to craft custom marketing materials and web pages for those industries.

Our assessment revealed the following:

- ✓ The Greater Des Moines Partnership's initiative is sufficiently staffed and funded, well branded, consistent and current.
- ✓ The Partnership's external sales activities are weighted heavily on **marketing missions** to major hubs of corporate and site selection – New York, Chicago, Houston, and Los Angeles to name a few.
- ✓ Payoff of extensive external marketing missions has been good. Approximately 65 percent of the Partnership's leads are generated through its

own activities, with a smaller portion coming through the Iowa Department of Economic Development. This is the opposite of what we have experienced in other communities.

- ✓ The Principal Golf Tournament is the Partnership's largest annual in-bound event, drawing between seven and 12 guests. There is room to expand internal marketing events to include a handful of smaller scale functions with two or three guests at a time. The Balloon Classic was a good attempt at this, but may not have been the ideal draw. Keep trying to find alternative options.
- ✓ The quantity of materials is far greater than what most state and regional EDOs typically produce. The Partnership may have difficulty keeping materials updated over time.
- ✓ The Partnership's website is attractive but improvements are needed. The Partnership should expand the website's quality and depth of information, directly address target audiences up front, and embolden sales messaging. We would like to see the same spirit of confidence found in the internal awareness campaign applied to the website. Greater Des Moines' online presence is **too modest at current**.
- ✓ While the Partnership's social media campaign is strong among an internal audience, it should continue to work **to increase the number of social media followers who live outside of the region**.
- ✓ By moving a greater portion of marketing activities online, the Partnership can more easily update information and save money in the process. Emphasis must be placed on **enriching the website and continuing strong media relations** versus printed brochures, promotional materials, and direct mail.
- ✓ The region's **internal awareness building campaign**, started in 2006, has shown results. In 2010 the campaign included advertisements placed around the community that feature positive national rankings and photos of residents.
- ✓ The Partnership has had a **strong public relations campaign** that has resulted in earned media mentions in major publications such as *The New York Times*,



Forbes, and *Kiplingers*.

- ✓ There is always room for improvement. For the Partnership, the next step is to **apply the “Des Moines. Do More.” brand to its target industries** and customizing messaging to those audiences.

The following sections provide analysis and recommendations on topics related to the Greater Des Moines Partnership’s economic development marketing program.

REVIEW OF THE GREATER DES MOINES PARTNERSHIP’S MARKETING TOOLS

Website

The following review of the Greater Des Moines Partnership’s website is designed to provide points of consideration for future website updates and redesign. Some of the problems that were discovered during our review can be quickly corrected, while other issues will require time and investment. As a general rule, an economic development organization’s website lifespan is typically three years before audiences change and appearance, content, and web-based tools must be revamped.

- The overall website is high-quality and visually attractive. However, there are a few areas in need of improvement.
- The homepage is attractive but content is weak and lacks strong sales messages. Currently, the prominent information displayed includes lengthy navigation bars, an internal calendar of upcoming events, a link to an RFP, and an offer to sign up for a newsletter. A small graphic in the corner illustrates one of the region’s many national rankings. **We would prefer that rankings and sales messages dominate the homepage. Also consider adding a map so that visitors immediately visualize Des Moines’ strategic location.**
- The region’s desired target audiences are not clearly expressed on the homepage or first tier pages. “Key industries” are buried within the Regional Economic Development / Business Climate section. This indicates a lack of emphasis on targets. **In future iterations, consider making “Target Industries” a tab in the main navigation bar or graphic links placed directly on the homepage.**
- The visual appeal of the website is effective. The color scheme and images throughout are cohesive and appealing. The overall visual appeal of the site flows very smoothly. It reinforces the “Do More” theme. Our only design criticism relates to the formatting of content. Paragraphs run together in some sections. **We prefer more bullet points and graphics versus written copy.**

- The Research and Statistics section of the website is in need of improvement. To begin, there needs to be a much greater depth of information available. A majority of the relatively slim amount of information is contained in links to outside organizations' websites (e.g., the American Community Survey or coli.org). Some of these links navigate the visitor away from the Partnership's website. In addition, research pages are copy-heavy. Graphic representation of data is critical, as is giving visitors the ability to download and save information to their own computers. **Consider adding a customized report feature in the future.**
- We're concerned that information about regional education institutions, training providers, and workforce development programming/curricula is not available on the Partnership's website. Access to talent is the number one factor in site selection today. **Include a section that delves more deeply into workforce skill sets and training capacities.**
- The search rankings for the Partnership's website can be improved. Although a search for "Greater Des Moines Partnership" yields a #1 ranking, the Partnership cannot assume that site selectors and corporations will know it by name. The Partnership's website ranks fourth in a Google search for "Des Moines economic development" (behind the City), and does not rank on the first page of websites for other intuitive search phrases (e.g., "Des Moines site selection," "Des Moines location," "Des Moines business," "Des Moines industry"). Investing in Search Engine Optimization will help.
- The Partnership's social media campaign is among the best we have seen, and we like the links to Facebook, Twitter, LinkedIn, and YouTube on every page.

To conclude, the Partnership's website is its number one marketing vehicle. The website is appealing; however, content can be improved. While professional in appearance, **the data representation is inadequate and sales messages are too modest. The Partnership should plan a significant website overhaul in the near future.**

Social Media

More economic development agencies are exploring the use of social media and web-based advertising platforms. While the external marketing value of LinkedIn, Facebook, and Twitter is still up for debate, social media-based advertising is still an interesting campaign supplement. The Partnership does a remarkable job keeping social media current and engaging.

- The Partnership's Facebook fan page has 2,346 fans (at the time of review). Posts on Facebook are current and added multiple times per day. This is remarkable.

- The Partnership's Twitter account has more than 2,400 followers. Tweets are made on a daily basis and feed into the Facebook page.
- The Partnership's LinkedIn group has 1,555 members. In our opinion, LinkedIn is a better social media marketing opportunity for external audiences such as site selectors and corporate executives, while Twitter and Facebook are prime for communicating with internal audiences and media.
- The Partnership also has a You Tube channel with 13 videos. Views of videos range between 10 and 70. Considering the cost of creating videos, this may not be the most effective form of marketing. Instead, consider creating audio podcasts with short sound bytes about the region's business climate and interesting news stories.

The potential for utilizing social media for both internal and external marketing is tremendous yet relatively untapped by most economic development organizations. Continuing to expand the fan base to include more external audiences will further differentiate the Partnership. Think of content that will **drive national media covering the Iowa caucus to the Partnership's Twitter account**, for example. Or **ask local educational institutions to encourage alumni to tune in.**

Direct Sales

Direct sales are activities that place the Partnership face-to-face with its target audiences, such as trade show attendance, marketing missions, and in-bound events. The Partnership's outbound sales calendar is extremely busy. A majority of sales activities involve marketing missions, with slightly less emphasis on trade shows and inbound events.

In-Bound Marketing Events

The Partnership's major in-bound marketing event is the Principal Golf Classic, which draws between seven and 12 site selectors and industry executives per year. The event begins with a soft sales presentation and tour, then guests are invited to a sky box located at the 18th hole for Saturday and Sunday. All expenses are covered except for travel to Des Moines (something worth re-evaluating if attendance dwindles – most EDO in-bound events include travel expenses.).

In addition to the Golf Classic, the Partnership attempted to host guests for the Balloon Classic and again at the Des Moines Arts Festival. We like the idea of adding a handful of smaller (one to three guests) events throughout the year. Whether it is the Balloon Classic and Arts Festival or something different like 80/35 or the Iowa State Fair, **we encourage the Partnership to continue drawing audiences into the region through multiple in-bound events each year.**

Marketing Missions

The Partnership is involved in numerous marketing missions across a wide spectrum of geographies. The 2010 trip schedule alone included recruitment trips to twelve communities: Atlanta, Houston, Phoenix, Dallas, New York, Denver, Boston, Los Angeles, Chicago, Nashville, San Francisco/San Jose, and Minneapolis. In addition, the Partnership attended events in New Orleans, Baltimore, San Antonio, and Las Vegas. The 2011 trip schedule follows a similar course.

The Partnership follows a standard approach to organizing these missions. Meeting requests begin with a letter and follow-up phone call. Staff members are responsible for making a majority of these calls, although some are outsourced to 310 Marketing.

Results have been solid. More than 65 percent of the Partnership's leads are generated through their own marketing activities versus the State's. We have some concern about the sheer volume of trips and the amount of time it must take staff members to not only set appointments but also travel and attend those meetings. Following the approval of Central Iowa target sectors, **the Partnership should focus marketing missions on only those geographies containing a high concentration of target industries and site consultants.**

Trade Shows and Real Estate Events

While more emphasis is placed on marketing missions, the Partnership's does attend a sizable number of real estate events each year. In 2011, the Partnership plans to attend NAI, IAMC, AFCOM, CORFAC, ACLI, SIOR, Live Xchange. Trade shows on the itinerary include BIO Industrial, WERC, AWEA, IFT and Supply Side West.

We have some concern that this high volume of event attendance (in combination with marketing missions) may be difficult to manage and that staff may not have adequate time to prepare for each event. As with marketing missions, we recommend that the Partnership review its event schedule in light of the target industries. **In the future, marketing missions should be the primary focus, supplemented by only a small number of highly targeted, executive level industry and real estate conferences.**

Public Relations

The Partnership currently has an outstanding media relations initiative that has resulted in numerous mentions in national and industry press as well as high national rankings. In 2011, Des Moines had 22 placements in national media and 24 in regional/trade publications.

Engaging in public relations is an imperative element of the Partnership's future campaign. According to surveys of site selectors, news stories rank among the most valued and influential sources of information about a community. Public relations should continue to be a significant aspect of the Partnership's future economic development initiative.

Collateral Materials and Advertisements

To contribute to this Marketing Assessment, *Market Street* requested a package of marketing materials from the Partnership. The marketing package contained the following promotional items and collateral: industry brochures, quarterly newsletters, sample prospect letters, community marketing campaign advertisements, save-the-date cards, small and large prospect books, feature in Business Facilities Live XChange packet, international travel clock, i-kleen pad, executive pens, and jump drive.

After a thorough review, we share the following comments:

- The presentation of marketing materials to the consulting team was well done.
- The Partnership collectively has more collateral materials and promotional items than most regional economic development organizations.
- Economic development marketing materials must be **concise, consistent, and current**. Overall, the Partnership's materials accomplish these three criteria.
- The materials have a high quality of design and are visually appealing with graphics. There is a very consistent color scheme that is bright and vibrant. The layout is clean and easy to follow; looking professional while feeling fresh and lighthearted.
- The industry brochures contain good, specific information relevant to the industries (logistics, data centers, financial services, and bioscience). We wish this level of detailed industry information were more prominently featured on the Partnership's website in a format other than a link to a PDF of the brochures.
- The message of "Des Moines. Do More." feels cohesive throughout all of the marketing materials.

Key Findings

Market Street Services is impressed with the Partnership's marketing initiative, but we see opportunities to "do more" with it.

The Partnership's large volume of collateral materials, public relations, and sales activities are certainly meeting its marketing needs. In the future, we recommend that it becomes more concentrated on target industries. The Partnership should focus its sights on the outcome of its initiative versus the output – which might mean fewer activities that are more intensified and reach outside the bounds of traditional marketing.

Marketing activities are currently good, but not necessarily a differentiator in our perspective. Given the Partnership's strong budget and staff expertise, there is an opportunity to take marketing to another level altogether.

Heavily emphasize online tools, such as a world-class, information rich website. Convert to electronic platforms as much as possible and get hyper creative (think iPad formatted presentations and a Des Moines economic development app, for example). The local awareness campaign and social media utilization are good examples of what happens when the Partnership puts its full know-how to work.

CONCLUSION

The practice of target sector identification and marketing must be seen as a component of a broader process of optimizing local competitiveness and fostering a business, development, training and entrepreneurial climate conducive to success. It will not matter what sectors a community is pursuing if it does not have a trained workforce to perform these jobs, a business climate to retain, expand and attract employers and a quality of life that serves to retain and draw talent to the region.

That said, it is nevertheless critical that target cluster development be focused on those business groupings and sub-groupings that have the highest potential for success. The process of examining Greater Des Moines and Central Iowa's occupational, employment and institutional capacity led to the recommendation of six target sectors and niches for the region to pursue as it markets itself internally and externally, works with regional partners in the development of affiliated training pipelines, and leverages government to provide supportive policies and regulations for these categories.

Central Iowa's identified target clusters to pursue are:

- ✓ Finance and Insurance
- ✓ Information Solutions
- ✓ Health and Wellness
- ✓ Agribusiness
- ✓ Advanced Manufacturing
- ✓ Logistics

Each target contains one or more niche areas representing particular employment categories that relate to the overall sector but still demand unique strategies to facilitate their growth and development. Overall, these target clusters represent an "evolution" of development priorities rather than a "revolution." Many of the marketing tools and programs in place to grow the current set of sectors can also be leveraged for the new categories. But, as this report noted, marketing efforts will also need to evolve from their current dynamics to reflect a more holistic, sustainable and targeted framework.

The forthcoming Capital Crossroads strategy will incorporate the target clusters and marketing conclusions contained in this report along with the key findings from the Competitive Capacity Assessment to build a strategic platform for Central Iowa's successful future. Critical to realizing this future will be the binding of the tremendous capacity in Greater Des Moines and Ames-Story County detailed in all the research-to-date into a truly connected, collaborative and sustainable partnership for change.

APPENDIX: METHODOLOGY

Market Street began the review process with a look at the performance of the region's existing targets to assess their continued viability. However, above all, *Market Street's* recommendations are derived from a **holistic view** of the sectors and networks within each target. Thus, the recommendation of a target sector does not imply that this cluster will be grown solely by attraction of outside firms. Rather, certain targets and niches will benefit more from a focus on retaining and expanding existing employment.

The quantitative portion of this analysis primarily utilizes occupational data from the U.S. Bureau of Labor Statistics (BLS) as well as employment data from the BLS Quarterly Census of Employment and Wages (QCEW). Occupational data will be presented for each target sector in the full report. The QCEW provides information on local employment and wage levels for all industries as defined as the North American Industrial Classification Systems (NAICS). The recommended targets for Central Iowa are clusters of related and supporting industries grouped by NAICS codes.

Within the employment data tables of this report, suppression issues arise from the BLS non-disclosure policy. In order to protect the identity of individual firms, the BLS suppresses employment and wage values for any industry sector where the number of establishments is less than or equal to three, or when a single employer represents more than 80 percent of total sector employment. This form of data suppression is increasingly prevalent as the sectors become more specific. Suppressed data have been noted in this Memo's tables as "n/a" (not available). Where significant suppressed data were encountered, *Market Street* leveraged comparable employment data from the Census Bureau's Quarterly Workforce Indicators (QWI) and from private data providers, Decision Data and ReferenceUSA. QWI data are based on QCEW data but have additional survey data "layered" in. Data from QWI is not as robust or as recent as QCEW, so it could not be used as the primary data source. Decision Data and ReferenceUSA provide unsuppressed employment data estimates for geographies despite size. However, this proprietary data is not available in historical time periods, eliminating the ability to provide longitudinal analysis for subsectors for which this data were utilized.

Suppression issues were most extensive in the region's rural counties. In 2010, according to QCEW data, the following counties represented less than 3.0 percent of all employment in the Central Iowa 10-county region: Guthrie County (0.8 percent), Madison County (0.9 percent), Boone County (2.2 percent), Warren County (2.3 percent), and Jasper County (2.6 percent). Figures presented throughout the report are aggregations of available county data. Realizing that some of these outlying counties are significant employers in sectors like agriculture and manufacturing, *Market Street* attempted to plug suppression-related holes by leveraging other data sources, as previously mentioned, without compromising acceptable research methodologies.

Throughout the report, employment data attained from ReferenceUSA are denoted by “*”, while employment data attained from Decision Data are denoted by “~”. Data attained from QWI are denoted by “+”, along with the counties included in the aggregation. QCEW data for the following counties were included in the aggregation for each NAICS code by target:

Finance and Insurance:

52: All counties
 5412I: Boone, Dallas, Jasper, Marion, Marshall, Polk, Story, and Warren
 5242I: Boone, Dallas, Jasper, Marshall, Polk, Story, and Warren
 52312: Marshall, Polk, and Story
 52429: Dallas, Polk, and Story
 52222, 5223I, 52232, 5231I, 52314, 52392, 52393, 5241I, 5251I: Polk County only

Information Solutions:

425I: All counties
 511I: Jasper, Marion, Polk, Story, and Warren
 5415I: Dallas, Polk, Story, and Warren
 5112I, 54169: Polk and Story
 54199: Polk only

Health and Wellness:

5419: All counties
 6211I, 6213: All counties except Madison
 6212I, 6213I: All counties except Guthrie and Madison
 6231I: All counties except Madison and Marion
 62134: Boone, Dallas, Guthrie, Marion, Polk, Story, and Warren
 6233I: Dallas, Guthrie, Jasper, Marion, Marshall, Polk, Story
 5415I: Dallas, Jasper, Polk, Story, and Warren
 5416I: Boone, Dallas, Story, and Warren
 5511I: Dallas, Polk, Story, and Warren
 62132, 62133: Dallas, Marion, and Polk
 6216I: Marion and Polk
 6243I: Marshall and Polk
 5112I, 5417, 62419: Polk and Story
 62139, 6214I, 62142, 62412, 6215I, 6219I, 62199, 6223, 62322: Polk only

Agribusiness:

4245: All counties
 5416, 92412, 92614: All counties except Madison
 11I: All counties except Guthrie and Warren
 54133: Dallas, Marion, Polk, and Story
 54138, 5417: Polk and Story
 5629: Boone and Polk
 4246: Polk and Warren
 42393, 42469, 54135, 6215I, 9241I: Polk only

Advanced Manufacturing:

5416: All counties except Madison
92412: All counties except Madison
81131: Dallas, Marion, Marshall, Polk, and Story
54133: Dallas, Marion, Polk, and Story
32611, 33451, 54135, 54137: Polk only

Logistics:

423, 424, 4245, 48111, 48121, 484, 49111, 49211: All counties
5416: All counties except Madison
4249: All counties except Guthrie and Marion
4231: Dallas, Marion, Marshall, Polk, Story, and Warren
4234: Dallas, Jasper, Polk, Story, and Warren
488: Dallas, Marshall, Polk, and Warren
4239: Dallas, Jasper, and Polk
44237: Marion, Polk, and Story
4236: Marshall, Polk, and Story
493: Marshall and Polk
4244: Polk and Story
4242, 4246, 4247: Polk and Warren
4232, 4233, 4241, 4248: Polk only