



A Bureau of Business Research Impact Memo
From the University of Nebraska—Lincoln

The Annual Economic Impact of Firms Located at the University of Nebraska Technology Park

by

Eric Thompson, Director and Associate Professor
Eric Ransom, MBA Student

Prepared for the University of Nebraska Technology Park

March 29, 2011
Bureau of Business Research
Department of Economics
College of Business Administration
University of Nebraska—Lincoln
Dr. Eric Thompson, Director

I. Introduction

This impact memo from the University of Nebraska-Lincoln Bureau of Business Research examines the economic impact of businesses affiliated with the University of Nebraska Technology Park in Lancaster County. Affiliated businesses are defined as businesses currently located at the Technology Park or businesses that graduated from the Technology Development Center and are located in Lancaster County. The study, which was commissioned by the University of Nebraska Technology Park, considers the annual economic impact on key metrics such as business activity, labor income, and employment.

The mission of the University of Nebraska Technology Park is to enhance the transfer of technology from the University to the marketplace, foster interaction among technology-based businesses and with the University, provide an environment which fosters applied research and development of new technology-driven products or services and promotes technology-focused economic development in Nebraska. The Technology Park is a cooperative venture involving the University of Nebraska Foundation, the University of Nebraska and the private sector. Businesses located at or graduating from the Technology Park are critical to the Lancaster County in part because they are “export-oriented” businesses. In other words, these are businesses that primarily sell goods and services outside of Lancaster County and around the Midwest, the nation, and internationally. Therefore, the businesses bring money into the Lancaster County economy and contribute to the economic base of the community. This both creates new job opportunities for Lancaster County residents and provides additional customers for other, existing Lancaster County businesses. Such economic development successes are the result of the efforts of a broad group, starting with Technology Park businesses themselves, with an important role played by the University of Nebraska Technology Park.

The study assesses the direct economic impact of these firms in terms of total business activity (business receipts), labor income, and employment. The study also considers the indirect economic impact (i.e., the multiplier effect) in terms of business activity, wages, and employment. Indirect impacts are then added to direct impacts to estimate the total economic impact on the county economy. The study also examines the cumulative investments of these affiliated businesses over the last decade, as well as the SBIR/STTR grants received by these businesses.

II. Economic Methodology

The Bureau of Business Research assessed the economic impact in a two step process. In the first step, the Bureau directly gathered information about the employment, salaries, and gross revenue from firms located at the Technology Park, and of graduates of the Technology Development Center. The Bureau contacted by telephone a list of 23 relevant businesses or organizations provided by the University of Nebraska Technology Park¹, and received information from all but 2 businesses. The Bureau requested information about employment, aggregate payroll, and gross revenue. The Bureau also considered employment and earnings at the Technology Park organization itself. Information provided by the businesses is the basis for the Bureau's estimate of the direct economic impact of firms affiliated with the University of Nebraska Technology Park. The Bureau also requested information about capital investment and SBIR/STTR grants. This information is reported separately.

The direct economic impact is only a component of the total economic impact, however. In particular, the direct economic impact sparks additional economic activity. Direct spending circulates further within a local economy, generating an "indirect impact." In part, the indirect impact occurs as firms located at the Technology Park purchase equipment and services from other local businesses. The indirect impact also occurs as employees of these firms spend their paychecks at Lancaster County businesses for a full range of household purchases including housing, groceries, dining out, retail, insurance, and others. These types of indirect impacts generate business receipts for business owners and wages for workers throughout the economy.

Indirect impacts are calculated using economic multipliers. Economic multipliers show the additional economic activity that occurs in Nebraska for each dollar of direct revenue. There are also multipliers available for employment and labor income (wages and benefits). The Bureau calculated relevant economic multipliers for Lancaster County using the IMPLAN multiplier package developed by the Minnesota IMPLAN Group (MIG, Inc.). The IMPLAN model is the leading economic multiplier package in use in the United States, and can be used to calculate economic multipliers for around 400 industries for any U.S. county, or combinations of

¹ AIM Institute, Assessment Learning and Technology Solutions, Digital Connection, Inc., Eide Consulting Group, Highway Bridge Services, Merial/Igeneity, Invest Nebraska, LNK Chemosolutions, Nature Technology Corporation, Z3 Technologies, Computer Services Inc., GeneSeek, A Neogen Company, Verizon, Dell, NCEE, Cabela's World's Foremost Bank, i2rd, Dynamic Solutions, MetaLogic, Midwest Microsystems, GIS Workshop, and Pro-Solutions.

counties. The Bureau has substantial experience in utilizing the IMPLAN model. Use of the economic multipliers allowed the Bureau to estimate for each affiliated business:

- The indirect employment impact
- The indirect labor income impact
- The indirect impact on business activity

Indirect employment, labor income, and business activity impacts were then added to direct impacts to yield estimates of the total annual economic impact on Lancaster County. Total economic impacts are presented in the results section that follows. Results are presented in aggregate rather than on a firm-by-firm basis in order to avoid revealing information about any particular firm.

III. Total Economic Impact

Table 1 reports the estimated total annual economic impact of business affiliated with the University of Nebraska Technology Park. The impact is reported for the most recent year for which businesses had budget, payroll, and employment information available. Recall that the businesses affiliated with the Technology Park include business currently located at the Technology Park as well as businesses that graduated from the Technology Development Center and are located in Lancaster County. The total annual economic impact on business activity was \$589.6 million. This is the broadest measure of economic impact. This economic impact included a \$151.3 million labor income impact, spread across 4,320 jobs. We further note that the affiliated businesses reported making approximately \$86.8 million in capital investments since beginning work at the Technology Park, and received \$8.2 million in SBIR/STTR grants during that time.

Table 1:
Total Annual Economic Impact from
Businesses Affiliated with the University of Nebraska Technology Park

| Spending Category | Direct Impact | Indirect Impact | Total Impact |
|-------------------|---------------|-----------------|---------------|
| Business Activity | \$391,600,000 | \$198,000,000 | \$589,600,000 |
| Labor Income | \$87,000,000 | \$64,300,000 | \$151,300,000 |
| Employment | 2,520 | 1,800 | 4,320 |

Source: BBR Calculations

Table 2 shows the annual economic impact in Table 1 broken out by industry. As is evident, businesses throughout the economy are impacted by businesses affiliated with the University of Nebraska Technology Park. The impact is much broader than just the types of industries found at the Park. The reason for this is the indirect (i.e., multiplier) impact. The largest impacts are in business services, financial services and information, the directly impacted industries. Among other industries, the largest economic impact was in the education and health care industry. There was a \$16.4 million impact on education and healthcare including \$8.3 million in labor income spread over an estimated 186 jobs. There was a \$11.4 million impact on the retail trade industry and a \$11.2 million impact on the hospitality industry.

**Table 2:
Total Annual Economic Impact from
Businesses Affiliated with the University of Nebraska Technology Park by Industry**

| Industry | Total Business Activity Impact | Total Labor Income Impact | Total Employment Impact |
|------------------------------|--------------------------------|---------------------------|-------------------------|
| Agriculture | \$72,000 | \$8,000 | 0.4 |
| Mining | \$0 | \$0 | 0.0 |
| Utilities | \$54,000 | \$13,000 | 0.1 |
| Construction | \$2,552,000 | \$1,305,000 | 22.0 |
| Manufacturing | \$2,846,000 | \$595,000 | 8.8 |
| Wholesale Trade | \$4,231,000 | \$1,752,000 | 29.3 |
| Retail Trade | \$11,387,000 | \$4,617,000 | 225.3 |
| Transportation & Warehousing | \$4,513,000 | \$2,121,000 | 39.5 |
| Information | \$107,022,000 | \$36,230,000 | 862.5 |
| Financial Services | \$276,293,000 | \$29,268,000 | 740.4 |
| Business Services | \$138,039,000 | \$57,625,000 | 1,791.3 |
| Education and Health Care | \$16,408,000 | \$8,256,000 | 185.8 |
| Recreation and Amusement | \$3,112,000 | \$823,000 | 65.7 |
| Hospitality | \$11,218,000 | \$3,309,000 | 212.5 |
| Other Services | \$7,178,000 | \$3,361,000 | 107.9 |
| Government | \$4,690,000 | \$2,048,000 | 26.7 |

Source; BBR Calculations. Totals may not sum due to rounding.

Table 3 repeats Table 1 above for the subset of 16 businesses associated with the Technology Development Center.² The total annual economic impact on business activity was \$32.3 million. This economic impact included a \$12.8 million labor income impact, spread across 260 jobs.

**Table 3:
Total Annual Economic Impact from
Businesses Affiliated with the Technology Development Center at the
University of Nebraska Technology Park**

| Spending Category | Direct Impact | Indirect Impact | Total Impact |
|-------------------|---------------|-----------------|--------------|
| Business Activity | \$17,700,000 | \$14,600,000 | \$32,300,000 |
| Labor Income | \$7,900,000 | \$4,900,000 | \$12,800,000 |
| Employment | 120 | 140 | 260 |

Source: BBR Calculations

The estimates in Tables 1 through 3 reflect the economic impact based on current conditions, and in particular do not reflect increases that will result from the recently announced expansion of Cabela’s World’s Foremost Bank at its University of Nebraska Technology Park location. The public announcement for that expansion in terms of investment and employment called for a \$7.2 million investment over the next 5 years. There would be a steady expansion of employment, with additional employment eventually reaching 400 jobs after 5 years. Annual payroll from these 400 jobs would reach an estimated \$12.4 million. In Table 3, we calculate the additional economic impact that would occur when the announced expansion is completed after 5 years. The economic impact is provided in Table 4 in terms of annual labor income and employment only, since the announcement did not include any information on expected increases in business revenue (i.e., business activity). The estimated annual economic impact on labor income would be \$21.4 million spread over 620 jobs. This would represent a substantial increase in annual economic impact, in particular, an 11% increase in the annual labor income impact over current levels and a 14% increase in the employment impact.

² AIM Institute, Assessment Learning and Technology Solutions, Digital Connection, Inc., Eide Consulting Group, Highway Bridge Services, Invest Nebraska, LNK Chemosolutions, Nature Technology Corporation, Z3 Technologies, GeneSeek, A Neogen Company, i2rd, Dynamic Solutions, MetaLogic, Midwest Microsystems, GIS Workshop, and Pro-Solutions.

Table 4:
Total Annual Economic Impact from Announced Expansion of Cabela’s World’s Foremost Bank (after completion of announced expansion)

| Spending Category | Total Impact |
|--------------------------|---------------------|
| Labor Income | \$21,400,000 |
| Employment | 620 |

Source: BBR Calculations