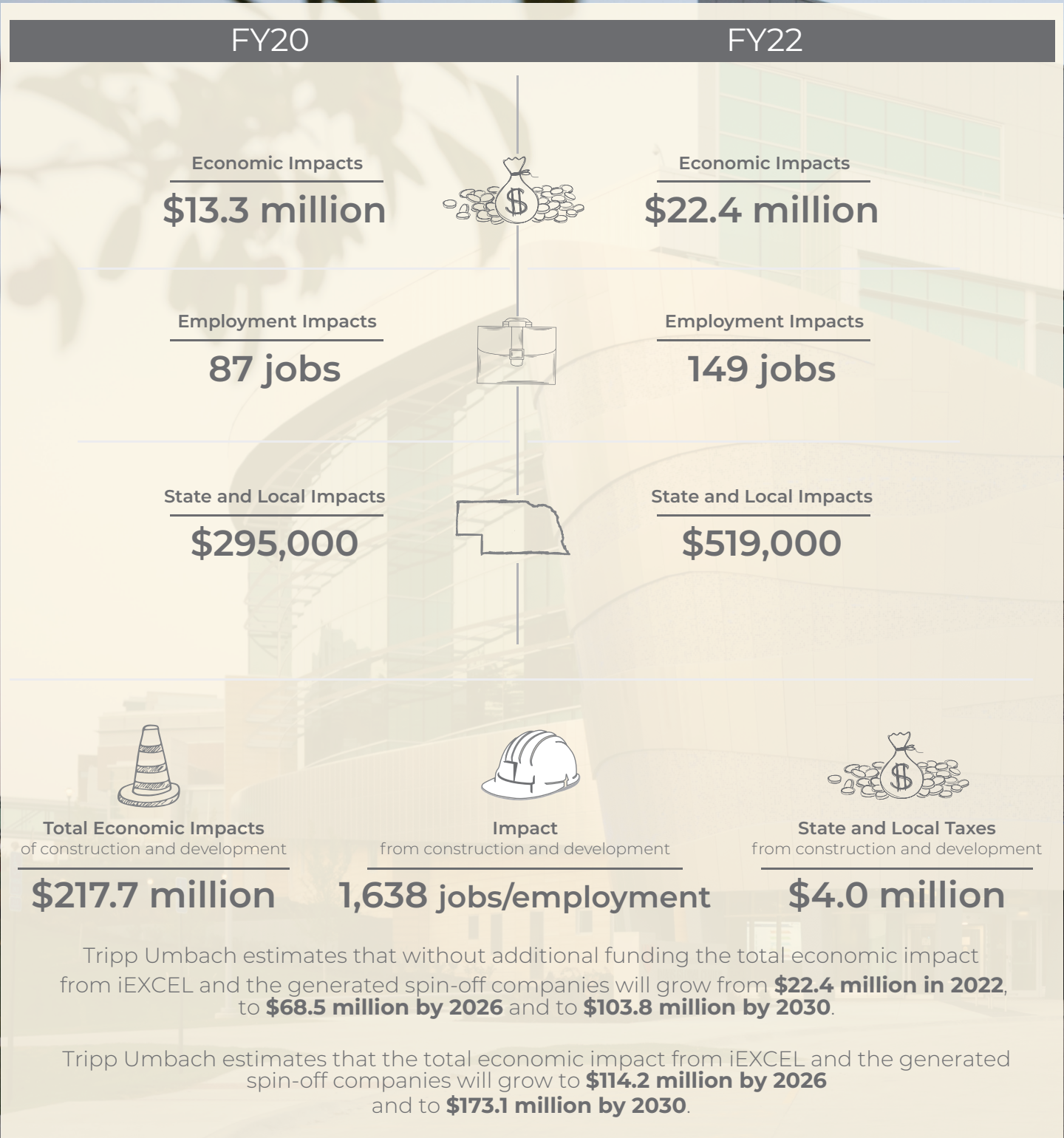


The Economic Impact of iEXCEL and the Davis Global Center on the State of Nebraska

June 2022



Annual Economic Impact of iEXCEL





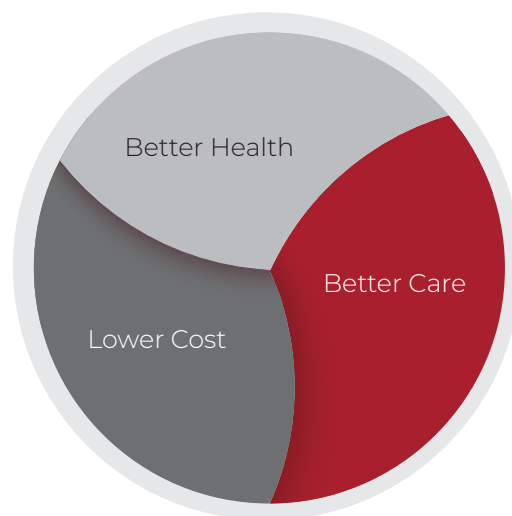
Vision: Improving Human Performance and Effectiveness in Healthcare

The Dr. Edwin G. & Dorothy Balbach Davis Global Center (Davis Global Center) at the University of Nebraska Medical Center (UNMC) is headquarters to iEXCEL. (Interprofessional, Experiential, Center for Enduring Learning) iEXCEL is a transformative project, having created a new model for education, training, and research for health care professionals. The model is built around a wide range of simulation & visualization technology in order for health care professionals to learn and become proficient in caring for patients in safe and simulated health care settings.

Patient safety will be improved due to enhanced education and training outcomes. Therefore, the number of medical errors and preventable deaths due to medical errors will be reduced due to the adoption of simulation and visualization technologies that enhance the preparation of health care professionals. While in the future, the impact of iEXCEL will be upon improving the quality of care and lowering the costs of health, this potential is not yet included in this report.

In the winter of 2021, iEXCEL retained Tripp Umbach to complete an economic impact study to measure and quantify the projected economic impact, job creation, workforce development, tax revenue, and the overall impact of the institution throughout Nebraska. The methodology employed in the calculation of these impacts is IMPLAN. Data included capital expenditures, operational expenditures, jobs, payroll and benefits, and taxes. The approach taken on this study was decidedly conservative.

The Triple Aim of Health Care

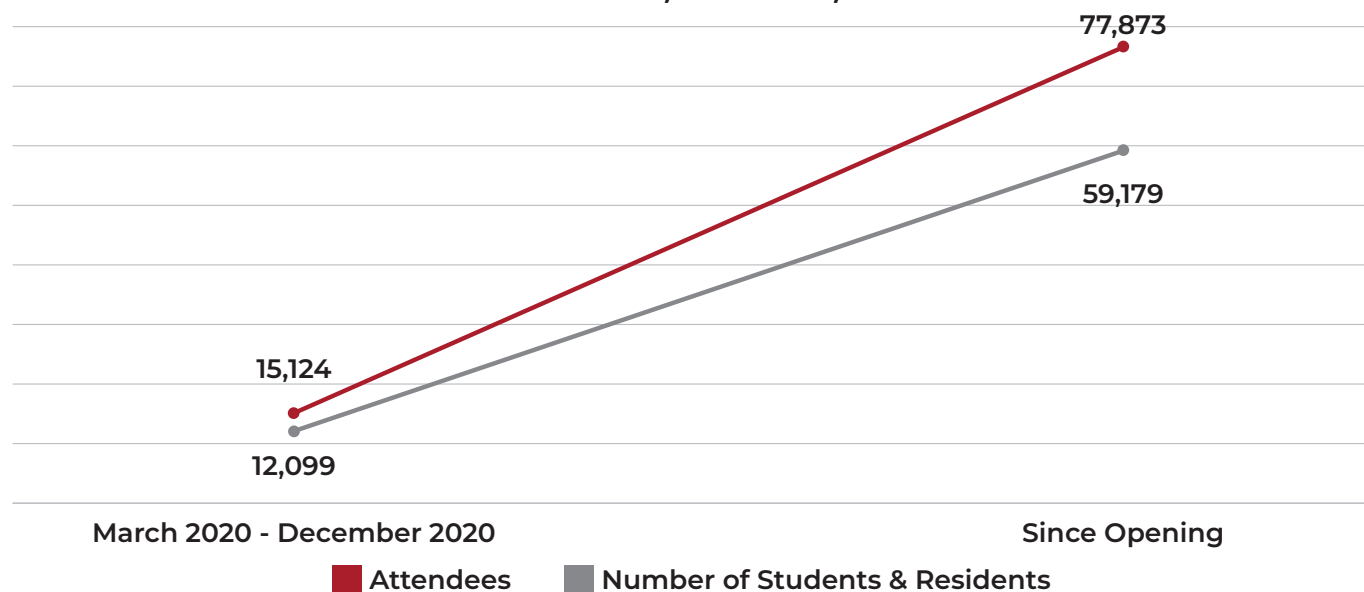


*Triple Aim of Health Care: Berwick - 2007

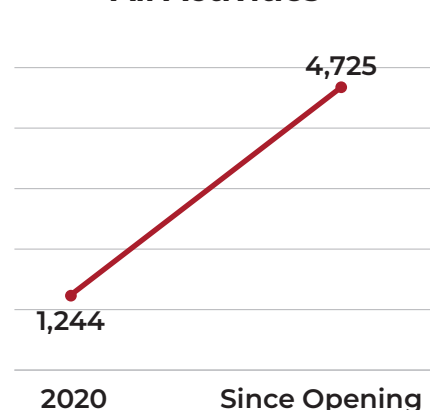
iEXCEL Quick Facts

Total Number of iEXCEL Attendees: Over 77,873 since opening — March 1, 2020 (Trainees and Tours)

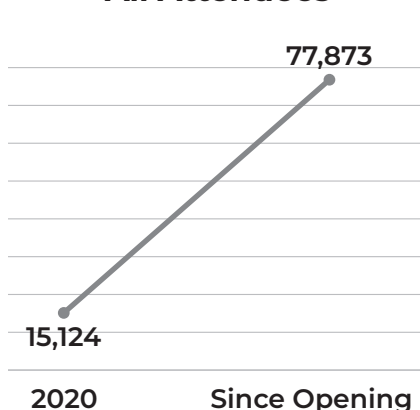
Number of Attendees, Students, and Residents



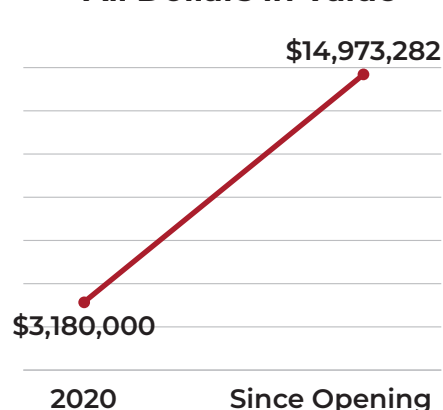
All Activities



All Attendees



All Dollars in Value



- Number of students and residents who have participated in training programs of iEXCEL: **62,298** (80% of total attendees within the Davis Global Center)
- Number of Education/Training Sessions: **3,269**
- Other Activities (Scheduled Tours/Planning Sessions etc.): **1,179**

Total Number of Tour Visitors: 2,458

- Companies that have visited – **442**
- Out-of-State visitor comprised – **750**

Total Values from Production, Marketing and Community Engagement: **\$10,910,748**

- Marketing (major hits only): **\$9,135,206**
- Tours: **\$890,709**
- Holographs: **\$621,000**
- Social Media: **\$263,833**

Supporting Details:

Marketing (Major Hits Only):

COVID-19 Press Conference Value (August 2021 & December 2021)

- Audience/impressions: **37,373,119**
- Publicity Value: **\$5,144,475**

Modern Healthcare – **1,108,445** average page views & **653,219** monthly web uses

Med City News – **143,608** Unique monthly views

ONPACE – **12** regional TV stories

Defence Global — **271,000** global subscribers, **73** presentations, **7** Defence Global publications since 2020



Tours:

Experiential Marketing via Tours, Screens, and Interactive Demos

- **424** - Tours conducted
- **478** - Total hours on tours
- **2,458** - Total attendees
- **\$1,100,421** - Total value

Holographs:

Experiential Brand & Marketing via Holographic Screenings

- **424** – Holographic screenings
- **106** – Hours viewing holographs
- **2,458** – Total viewers
- **\$245,800** – Total Media Value
- **\$737,400** – Total Publicity, Marketing, Brand Value of Holographs

Social Media:

- Total impressions (e.g., Twitter, Instagram, LinkedIn, Facebook): **580,432**
- **\$290,216** – Total Social Media Value

** Tour, Holographic, & Social Media figures are separate, distinctly quantified values.*

National/Global companies who have engaged with iEXCEL:

Medical/Industry (including):

- 30 Surgical Companies
- Joint Product Creation X 1 (Chamberlin Group)
- Military/Government – State of Nebraska, USSTRATEGIC COMMAND, Joint Base San Antonio (JBSA and DoD), CIA, and Air Force (C-Stars Program)
- Technology – AVI-SPL, MultiTaction, Unity, Hill-Rom, Oracle, and Lockheed Martin





Economic Impact of the Davis Global Center

Construction and Development

The Davis Global Center is both a health care and economic game-changer for Nebraska. The 192,000-square-foot center is the first and last stop on the UNMC tour for thousands of academic, health care, and industry leaders from throughout the world, resulting in an immense impact on the brand value for the University of Nebraska and the state of Nebraska.

The center is vital to the state's economic success, directly or indirectly impacting residents of Nebraska daily through clinical care services/activities and operational spending. During construction, the Davis Global Center generated in total **\$217.7 million** to the Nebraska economy.

The construction and the development of the Davis Global Center supported **1,638 total jobs** in the Nebraska economy. These jobs included not only direct employment, but also indirect jobs created through the supply chain, as well as equipment vendors, laborers for the construction, and contractors. These impacts also added **\$4.0 million** in state and local tax revenue.

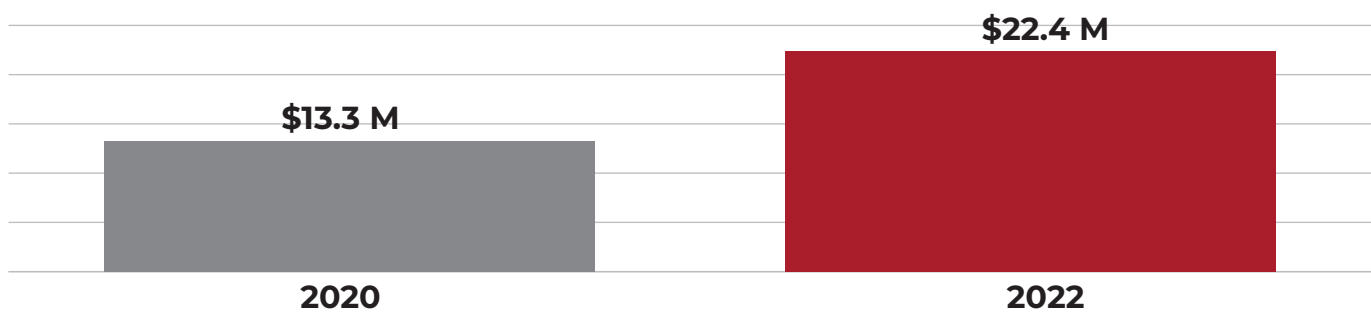


Economic Impact of iEXCEL

Economic Impacts of iEXCEL in 2020 and 2022

iEXCEL is already a major success story in Nebraska. Since opening, more than 70,000 learners and visitors have engaged with iEXCEL. Half of iEXCEL’s expected revenue in FY22 will emanate from sources other than the state of Nebraska. The percentage of iEXCEL’s operational budget representing fresh dollars attracted to Nebraska will continue to grow. The total economic impact of iEXCEL on the Nebraska economy from operations, visitors, and the commercial spin-off has already grown by 61% in the past two years from \$13.3 million in 2020 to \$22.4 million in FY22.

Figure 1: Total Economic Impact of iEXCEL Operations

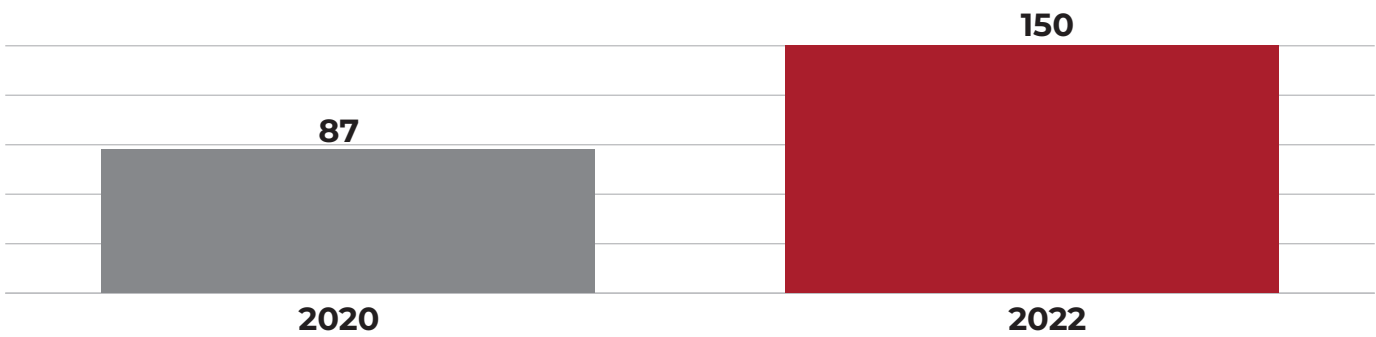


Workforce Impacts in 2020 and 2022

Accelerating job creation and attracting a new workforce to Nebraska for high paying technical positions has been a goal since the inception of iEXCEL. Jobs supported in the Nebraska economy by iEXCEL has grown from 87 jobs in FY20 to 150 jobs in FY22. These jobs include direct employment from iEXCEL as well as indirect jobs created through iEXCEL’s iXR Innovation Academy, through the supply chain and equipment vendors, technical service consultants, as well as content design partners and contractors. In addition, restaurants, hotels, and retail stores support jobs in the Nebraska economy and benefit from the presence of iEXCEL and its visitors.

For example, AVI-SPL (largest global integrators) has established an office in Omaha. The company has grown to 24 employees and credits iEXCEL for the partnership and opportunities that brought them to Nebraska.

Figure 2: Jobs/Employment Impacts of iEXCEL



Improving Human Performance and Effectiveness in Health Care

The Davis Global Center is a comprehensive training and research venue in which partnerships are created for training and the development and testing of new processes, products, educational content, and/or devices. Companies are anticipated to be formed in close proximity to iEXCEL, and other companies will be attracted to Nebraska to develop products and services in the following areas:

a. Interprofessional Collaboration & Practice

b. Performance Assessment

Evaluate training outcomes using various simulation and visualization activities. Real-time feedback via audio-visual capture and dedicated debriefing spaces. Outcomes and metrics for competencies in individual, team and Live Virtual Constructive Exercises (LVCEs) with various partners including the U.S. military.

c. Emerging Technologies & Visualization

Exploring the unprecedented development of 3D, augmented reality/virtual reality (3D/AR/VR). Simulation environments for training, content development, testing, and imaging. Advanced learning, teaching, and skill development as well as clinical practice skills and teamwork.

d. Holographic & 3D Imaging

Develop 3D and holographic visualization to enhance or complement research. Utilize holographic presence for recorded sessions or interactive presentations with an in-person presenter. Bring research with anatomy, assets, data, or concepts in holographic format.

e. Biopreparedness

Helping individuals train for and becoming competent in preparedness and other outcomes.

f. Remote & Distributed Training

iEXCEL operates as a hub for regional and stateside training. In addition to oversight of four mobile simulation units, iEXCEL has also developed a statewide network of connected digital walls that enable real-time connectivity across the state from the Davis Global Center. Live Virtual Events are also transmitted to and from the Davis Global Center to rural emergency responders and critical access hospitals, providing guidance and information – especially during the pandemic.

Tripp Umbach's estimates are decidedly conservative as they are based on experience with commercialization of research at other academic medical centers. However, advancements in technology and innovation at iEXCEL make it more likely that industry, military, and government partnerships will accelerate over the next decade. Therefore, the estimates outlined in Tripp Umbach's report should be viewed as a baseline professions training.



Social and Community Benefits

Who benefits from iEXCEL?

The University of Nebraska Medical Center Clinical Entities

- Recruitment and Retention of clinical staff and world-class clinicians
- Improved patient-care outcomes
- Reputation Enhancement
- Statewide outreach

University of Nebraska

- Student recruitment (cutting edge and safe learning)
- Reputation for quality of education
- National, global and statewide outreach
- Other disciplines (engineering, computer science, business, architecture etc.)

Omaha Community

- STEM activities

State of Nebraska

- Workforce development in advanced digital technology
- Citizens of Nebraska (safer patient care etc.)

Interprofessional, experiential training education programs will result in improved patient quality and safety at Nebraska Medicine – resulting in millions of dollars in health care cost savings and millions more in benefits associated with a healthier Nebraska workforce. Research programs will grow and attract fresh dollars from the federal government and private industry throughout the world.

Economic impact from clinical revenue is expected to increase as Nebraskans remain in the state to receive the highest level of innovation-driven care and patients from outside of the state come to Nebraska Medicine for care.

Nebraska patients benefit because learners apply their well-practiced skills, both individually and as teams, before caring for real patients. iEXCEL represents a transformational concept in the way to educate the next generation of health care professionals. This new model is designed to ensure relevance in health education so that those who provide care to our families and friends continue to maintain the best knowledge, skills, and interprofessional expertise – as well as deliver the highest quality, most compassionate care.

The Nebraska economy benefits from national prominence, improved patient safety outcomes, and increased health care access by providing the best-trained health professions workforce. The benefits of bringing outside corporate interests, public-private partnerships, and relationships with many federal agencies hold incredible promise. iEXCEL can serve as a template for the rest of the country and become the “silicon prairie” for advanced medical technology.



Even before opening in 2020, the Davis Global Center stood at the intersection of entrepreneurial interests and business development. Partnerships among health care leaders, industry leaders and professionals are part of The Davis Global Center. Intellectual property resulting from current and future initiatives will bring additional economic impact to communities throughout Nebraska.

The Davis Global Center





Study Methodology

About IMPLAN

Economic impact begins when an organization spends money. Economic impact studies measure the direct economic impact of an organization's spending, plus additional indirect spending in the economy because of direct spending. The economic impact has nothing to do with dollars collected by institutions, their profitability, or even their sustainability since all operating organizations have a positive economic impact when they spend money and attract spending from outside sources.

Direct economic impact measures the dollars that are generated within Nebraska because of the iEXCEL's presence. This includes not only spending on goods and services with a variety of vendors within the state, and the spending of its employees and visitors, but also the business volume generated by businesses within Nebraska that benefit from spending by iEXCEL. It is important to remember that not all dollars spent by iEXCEL stay in Nebraska. Dollars that "leak" out of the state in the form of purchases from out-of-state vendors are not included in the economic impact that iEXCEL has on the state. The total economic impact includes the "multiplier" of spending from companies that do business with iEXCEL.

Support businesses may include lodging establishments, restaurants, construction firms, vendors, temporary agencies, etc. Spending multipliers attempt to estimate the ripple effect in the state economy where the spending occurs. For example, spending by iEXCEL with local vendors provides vendors with additional dollars that are re-spent in the local economy, causing a "multiplier effect."

What is the multiplier effect?

Multipliers are a numeric way of describing the secondary impacts stemming from the operations of an organization. For example, an employment multiplier of 1.8 would suggest that for every 10 employees hired in the given industry, eight additional jobs would be created in other industries, such that 18 total jobs would be added to the given economic region. The multipliers used in this study ranged from 1.8 to 2.0.

The Multiplier Model is derived mathematically using the input-output model and Social Accounting formats. The Social Accounting System provides the framework for the predictive Multiplier Model used in economic impact studies. Purchases for final use drive the model. Industries that produce goods and services for consumer consumption must purchase products, raw materials, and services from other companies to create their product. These vendors must also procure goods and services. This cycle continues until all the money is leaked from the region's economy. Three types of effects are measured with a multiplier: the direct, the indirect, and the induced effects. The direct effect is the known or predicted change in the local economy that is to be studied. The indirect effect is the business-to-business transactions required to satisfy the direct effect. Finally, the induced effect is derived from local spending on goods and services by people working to satisfy the direct and indirect effects.

- **Direct effects** take place only in the industry immediately being studied.
- **Indirect effects** concern inter-industry transactions: because iEXCEL is in business, it has a demand for locally produced materials needed to operate.
- **Induced effects** measure the effects of the changes in household income: Employees of iEXCEL and suppliers purchase from local retailers and restaurants.
- **Total Economic Impacts** are the total changes to the original economy as the result of the operations of iEXCEL. Direct effects + Indirect effects + Induced effects = Total Economic Impacts





About Tripp Umbach

iEXCEL commissioned an independent third party, Tripp Umbach, to conduct this economic impact study. Tripp Umbach has conducted more than 1,000 customized economic impact studies for major corporations, health care organizations, universities, medical schools, and health insurance companies. To fully quantify the impact of the iEXCEL Global Center for Advanced Interprofessional Learning within Nebraska, Tripp Umbach established a comprehensive, yet conservative, methodology to estimate the operational and economic development impacts based on information compiled using uniform and consistent techniques that could be replicated in the future. Using IMPLAN (IMpact analysis for PLANning) data and software, Tripp Umbach conducted a classic input-output analysis in combination with regional specific Social Accounting Matrices and Multiplier Models. The approach utilized in this study was decidedly conservative. Multipliers in this analysis, derived by IMPLAN, range from 1.87 to 2.1. iEXCEL supplied data for this project, and industry standard operational spending and employee salaries were utilized in the study. All impacts are presented in 2021 dollars.





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