

**TESTIMONY SUBMITTED TO THE HOUSE STANDING COMMITTEE ON  
VISION 2020  
IN SUPPORT OF THE INNOVATION GROWING PROGRAM**

Presented by  
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Chairman Sloan, Vice Chairman Swanson, Ranking Minority Member Finney, and members of the Committee, good afternoon and thank you for the opportunity to testify before you today. My name is Trevor McKeeman and I serve as the Director of Business Development for the Kansas State University Institute for Commercialization (KSU-IC).

We are pleased to support the Kansas Department of Commerce during this hearing by presenting a historical overview of KSU-IC, related client companies, integration with KDOC as a former KTEC affiliate, the Common Scorecard, and future opportunities for innovation in Kansas.

**Recent Name Change**

The Kansas State University Institute for Commercialization was formerly named the National Institute for Strategic Technology Acquisition & Commercialization (NISTAC).

**History and Structure**

**In 1994** - a partnership was formed among Kansas State University, the Kansas Technology Enterprise Corporation (KTEC), the city of Manhattan, and the Manhattan Area Chamber of Commerce to create a 501(c)3 not-for-profit called Mid-America Commercialization Corporation (MACC) and its wholly owned for-profit subsidiary Mid-America Technology Management Inc. (MTM).

These entities were created to offer both not-for-profit and for-profit services to client companies in an effort to facilitate commercialization of technologies for regional economic and social benefits.

**In 1995** - MACC began to serve as the licensing agent for the Kansas State University Research Foundation (KSURF), marketing technologies developed at the university. That same year MACC established its first spin-out company NanoScale Materials and

assumed responsibility for an existing business incubator, the Kansas Entrepreneurial Center.

**In 1998** - MACC initiated the Technology Acquisition Development and Commercialization (TADAC) program which accepted over 1,100 donated corporate patents.

**In 2004** - MACC's name was changed to the National Institute for Strategic Technology Acquisition and Commercialization (NISTAC) as the scope of the organization broadened beyond Kansas.

**In 2007** - NISTAC was named the commercialization partner for the new K-State Olathe campus. That year NISTAC moved into a new biosafety level 2 wetlab business incubator built by the City of Manhattan. NISTAC also partnered with Kansas State University, KSURF, the Manhattan Area Chamber of Commerce, and the City of Manhattan to form a new program called Knowledge Based Economic Development (KBED), which was designed to actively attract, grow, and retain knowledge-based businesses to create wealth for the region and its partners.

**In 2011** - NISTAC was renamed to KSU-IC and reorganized to have two members, Kansas State University and the Kansas Department of Commerce with the university as the controlling member. This change was based on Kansas State University's strategic plan to be recognized as a top 50 public research university, the recognized value of KSU-IC in achieving that goal, and the reorganization of KTEC affiliates into the Kansas Department of Commerce.

#### **Transition from KTEC to KDOC**

The transition of KSU-IC membership from KTEC to the Kansas Department of Commerce, the reorganization of the board, and further alignment with Kansas State University has progressed smoothly. Communication with KDOC has been excellent. Coordination to support the goals of each organization and enhance economic growth in the state has been professionally conducted. In short, KSU-IC is pleased to be partnered with KDOC.

#### **Kansas Innovation Growth (Common) Scorecard**

The Common Scorecard is seen as a consistent, simplified, and transparent metric to evaluate the performance of KDOC affiliated innovation and commercialization entities. The format is comparable to other performance metrics utilized by KSU-IC and the reduced complexity of reporting should enable accurate measurements over time.

#### **Current Structure, Purpose, and Key Differences**

KSU-IC remains an independent 501(c)3 not-for-profit with a wholly owned for-profit subsidiary MTM.

True to its founding principles, KSU-IC seeks to generate wealth for the state of Kansas and its members by identifying technologies or capabilities and commercializing them.

A defining characteristic of KSU-IC's success is that the organization is not geographically bound. When possible companies are formed and technologies commercialized in Manhattan or in Kansas. However, the global nature of new technologies means that KSU-IC will pursue opportunities anywhere in the world and then bring the wealth back to Kansas.

KSU-IC provides a portfolio of commercialization services including:

- Intellectual property (IP) licensing for university and private industry clients
- Monetization of intellectual capability for university and industry clients
- Commercialization of donated corporate IP
- Business incubator and wetlab facilities
- Start-up company formation and development
- Business development services for companies not based on KSU-IC owned IP
- Economic development through the Knowledge Based Economic Development (KBED) program

**Intellectual Property Management**

**Kansas State University**

KSU-IC works by contract with the Kansas State University Research Foundation, to license and commercialize IP that KSURF holds on behalf of Kansas State University.

*KSU Licensing Highlights - Average Annual (over the last 5 years)*

Invention Disclosures: 30	Issued Patents: 4-5
Licenses or Options Completed: 7	Licensing Revenue: \$1.68 million
KSU generates 2X the median revenue per license of similar size universities	Estimated Annual Sales on KSU licensed technologies: \$56 million

**Wichita State University**

In 2010 Wichita State University (WSU) contracted with KSU-IC to market select IP from its portfolio including technologies developed at the National Institute for Aviation Research (NIAR).

Since that time WSU and KSU-IC have completed the first two royalty-bearing IP licenses in the history of WSU.

**MRI Global**

In 2010 MRI Global (formerly Midwest Research Institute) based in Kansas City Missouri contracted with KSU-IC for selected IP commercialization. MRI Global is also looking to enhance the commercialization capability of the National Renewable Energy Laboratory (NREL) in Golden Colorado, which it co-manages with Battelle on behalf of the Department of Energy.

**TADAC Portfolio**

KSU-IC owns a portfolio of donated corporate intellectual property. 1,100 foreign and domestic patents were acquired between 1998 - 2004, before Congress changed the broader charitable giving laws. KSU-IC was one of the largest recipients of donated

corporate intellectual property in the country, yet turned down over 70% of the IP offered by companies through its rigorous screening process.

This portfolio has been largely commercialized with over 51% licensed or sold into the marketplace (typical university commercialization rates are less than 12%). This intellectual property generates \$45 million in annual global product sales for companies licensing or owning the IP.

### **K-State Olathe**

KSU-IC is a designated commercialization partner for the new K-State Olathe campus.

### **Animal Health Corridor**

KSU-IC has been active in the expansion of the Animal Health Corridor from Manhattan KS to Columbia MO. The selection of Manhattan KS as the location for the National Bio and Agro-Defense Facility (NBAF) will create future opportunities to recruit and build animal health companies in the region.

KSU-IC is also actively pursuing joint ventures with animal health companies throughout the region and has partnered with private companies to commercialize their intellectual property.

**Abaxis, Inc. (Olathe)** - KSU-IC facilitated a partnership with Abaxis, Kansas State University, and K-State University Veterinary Diagnostic Lab to form AVRL (Abaxis Veterinary Reference Laboratory). KSU is providing expertise in laboratory testing and pathology analysis that allows Abaxis to quickly scale up this part of its business. In addition to laboratory funding, KSU has also received equity in the parent Abaxis company. The lab officially opened in October 2011 and had 26 employees by September. At that time AVRL had 400 customers across 38 states and is projected to breakeven by mid 2012.

### **Wetlab Space & Incubator**

KSU-IC operates a biosafety level 2 (BSL-2) wetlab incubator for various start-up companies. This facility was built by the city of Manhattan on university ground in a foundation owned research park. Many of the bioscience start-up companies housed at the incubator have spun out of university capabilities. Manhattan also contains a BSL-1 lab, BSL-3 lab, and with NBAF a BSL-4 lab. This represents all levels of biosafety in a town of only 50,000 people.

### **Knowledge Based Economic Development**

KSU-IC has partnered with the Manhattan Area Chamber of Commerce, Kansas State University, the KSU Foundation, KSURF, North Central Kansas Community Network, and the City of Manhattan for the KBED program. This unique for-profit collaboration seeks to identify regional business and research capabilities and leverage those assets to recruit or create new companies in the region.

This program has proven successful and KSU-IC has collaborated with the Kansas Department of Commerce and Lawrence/KU to explore developing similar knowledge based initiatives around the state.

**Megastarter (Wamego)** - a regional success story. KBED partners identified a company in South Africa that was developing a novel animal health technology, which improves the health and performance of feedlot cattle. KBED partners arranged for the purchase of this company by out of state investors and the company's production facilities have been moved to Wamego KS. The company is supported by additional research at Kansas State University and has begun selling products in the United States.

#### Examples of Client/Spin-out Companies

KSU-IC has created 21 companies and two of them have been harvested through acquisition. Company examples include:

- **NutriJoy (Manhattan)** - was a company founded on technology received from Procter and Gamble. It has developed nutritional beverages that provide more vitamin C than orange juice and more calcium than milk. It also contains technology related to nutritional food items. Coca-Cola purchased a majority stake in NutriJoy and has used the company as one of its six innovation centers in the world. NutriJoy was the first beverage technology acquisition by Coca-Cola.
- **ScavengeTech (Manhattan)** - KSU-IC has been working with ScavengeTech to commercialize novel turbo monitoring technologies for the natural gas compression industry. ScavengeTech is partnered with a major natural gas industry company and is selling units of its Turbo Shield product currently.
- **Nitride Solutions (Wichita)** - is a joint Wichita Technology Corporation (WTC) and KSU-IC client company. The company is developing a proprietary high-volume, low-cost production process for Aluminum Nitride substrates. These substrates are used in LEDs and laser diodes and have the capability to emit light in the ultraviolet portion of the spectrum, which other substrates are unable to provide. The company recently closed a \$2.5 million series A round.
- **Choco Finesse (Indianapolis)** - is based on the EPG technology received under TADAC donated by Unilever. The technology reduces the caloric value of solid fats such as those found in chocolate by up to 90%. KSU-IC worked with major chocolate companies to show the value of EPG as a cocoa butter replacement and believes the market value potential in chocolate alone is significant.
- **GTL Petrol (NYC)** - is a company formed around a KSU-IC TADAC technology that more efficiently converts natural gas to liquid transportation fuels. The capital requirements for such facilities measure in the hundreds of millions, thus the technology was licensed into an experienced management team with deep energy industry connections. KSU-IC retains ownership of the IP and is a significant equity holder in the company.

- **Motiv Engine (San Diego)** - is a company founded on TADAC technology received from Caterpillar. This novel compact engine technology reduces the size of the engine while enhancing fuel efficiency and reducing emissions. The technology has been licensed to and experienced entrepreneur who commercialized auxiliary power units in the trucking industry. The motor is expected to test-fire soon. KSU-IC retains equity in the company and the base IP.
- **Innovia (Omaha)** - has signed a licensing service agreement with MTM to identify international partners to license or distribute the Earcheck (an ear infection medical diagnostic device) product outside of the U.S.
- **Sunflower Integrated Bioenergy (Manhattan)** - SIB was founded by Sunflower Electric Power Corporation and MTM, which is owned by KSU-IC. SIB has been focused on the identification and commercial integration of carbon utilization technologies into conventional base load power plants. SIB has initiated a \$10 million international prize competition (the Carbon X Prize) with the X Prize Foundation, major utilities, and capital partners.

#### **Benefits to the Manhattan Economy**

KSU-IC through its local affiliated client companies has produced:

- 181 net new jobs with an average wage of approximately \$57,100
- \$165 million infusion into the Manhattan region through product and service sales, investment capital, research funding, royalties, and licenses over the last 11 years.
- \$12 million in direct licensing revenue back to Kansas State University in the past 10 years.
- \$30 million in equity and grants over the past nine years from KSU and corporate IP.

#### **Other Innovation and Commercialization Activities**

- **Corporate IP** - KSU-IC selectively partners with private companies to commercialize or market their technologies.
- **Business Development** - KSU-IC has developed partnerships involving technology not owned by KSU-IC or its affiliates in an effort to expand the innovation portfolio. A variety of business services are provided in return for a value proposition in the company.
- **K-State Angel Network** - an network of angel investors was established years ago and KSU-IC is working with WTC and others to help leverage these investors and enhance deal flow.

#### **Future Commercialization Opportunities**

- **University Funding Through Commercialization** - as universities continue to be under funding pressures, the application of new technologies in the marketplace is seen as a potential revenue source to help augment state funding.

Supporting commercialization of university intellectual capability thus benefits both regional economies and state academic institutions.

- **Stranded Corporate IP/Capabilities** - the success of the TADAC portfolio shows that unutilized corporate IP can generate significant returns if brought to market. Corporations hold 20 times more patents than those held by all universities, research institutions, and federal laboratories collectively. However, corporations only commercially use 6% of their IP portfolios.
- **Government Labs** - increasing commercialization of federal laboratory technologies through marketing partnerships may help improve taxpayer ROI.
- **Import of Innovation and Capital** - creating an environment in Kansas that draws technology & capital into the state while leveraging regional assets provides growth that is not possible with locally developed technology alone.
- **Prize Competitions** - Charles Lindbergh's first flight across the Atlantic was to win a \$25,000 prize. An accurate method to measure longitude was discovered by a clock maker responding to a British government prize set in 1714. The Ansari X Prize for space flight drew 26 teams to spend \$100 million to win a \$10 million prize and led to investment of over \$1.5 billion in the private space industry. Incentivized competitions are an efficient way to leverage innovation and capital. Prizes will be utilized greatly by private industry and state/federal governments in the future. Such opportunities are available in Kansas.

Thank you again for the opportunity to testify before the committee today.