



**OCAST**

Center for the Advancement  
of Science & Technology



**FUTURE  
FOCUSED:**

**VOICES OF INNOVATION,  
PROMISE FOR TOMORROW**

**ANNUAL REPORT**

**FY2025**

# LETTER FROM THE EXECUTIVE DIRECTOR

## A Future-Focused Oklahoma

Oklahoma's future will not be built by accident. It will be built by people. By ideas. By companies willing to take risks, and by a state willing to invest alongside them.

At OCAST, our role is to help connect those pieces. We work at the intersection of industry, research, entrepreneurship, workforce, and capital, ensuring that promising ideas have a real path to market and that companies with roots here can grow here. Our work is building an innovation economy that is resilient, competitive, and uniquely Oklahoma.

The stories in this report reflect that approach. From deep-tech companies solving complex challenges, to manufacturers innovating in rural communities, to students gaining hands-on experience through STEM internships that lead to real careers, each example demonstrates what happens when support is applied at the right moment. Innovation does not follow a single script, and it does not only happen in one place. It happens in labs and on factory floors, in hospitals and classrooms, in cities and small towns across our state.

Demand for this work continues to grow. Applications for OCAST programs have increased year over year,

and the quality of those proposals continues to rise. Most of the resources we deploy go directly into companies, talent, and market access, and nearly all require matching dollars. This ensures that state investment attracts private, federal, and philanthropic capital while maintaining accountability and flexibility.

OCAST exists to help Oklahoma grow its own economy by building companies here and keeping them here. Early-stage innovation is inherently risky, which is why state leadership matters. When we invest early, we help de-risk ideas long enough for the commercial story to emerge and for private capital to follow.

This report is a snapshot of that work in motion. It is also a reminder that the future we want requires continued partnership, trust, and commitment.

Together, we can keep Oklahoma future-focused.

*Jennifer McGrail*  
EXECUTIVE DIRECTOR, OCAST





WEST PRECISION IN TULSA



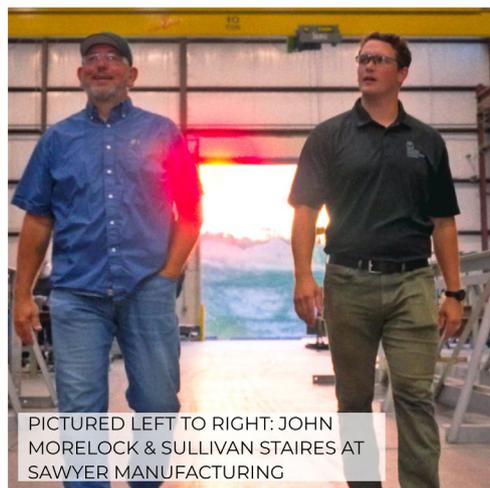
INNOVATE THAT PODCAST HOST LT. GOV MATT PINNELL WITH DAN HARBEKE OF GOOGLE



PICTURED LEFT TO RIGHT: JENNA COTHRAN, ZEECO  
ODDY HARRIS, OFA AT TULSA INNOVATION DAY



PICTURED LEFT TO RIGHT: DARCY WILBORN,  
SHANNON CARR, ASHLEY CORRAL, MARK LAUNGER  
WITH I2E AT TULSA INNOVATION DAY



PICTURED LEFT TO RIGHT: JOHN  
MORELOCK & SULLIVAN STAIRES AT  
SAWYER MANUFACTURING



MI OLUNLOYO PROBOUND AI AT BRIDGE2 DEMO DAY



ERIC INIGUEZ, REPRESENTING UNIVERSITY OF  
TULSA AT OKC INNOVATION DAY AT THE  
CAPITOL



INNOVATE THAT PODCAST HOST  
GOV. MATT PINNELL WITH CHRIS & TERI BILLINGS,  
FOUNDERS OF DUNCAN MACHINE PRODUCTS



UNITED STATES PATENT & TRADEMARK REPRESENTATIVES AT THE OKLAHOMA  
INTELLECTUAL PROPERTY TRAINING AND NETWORKING SESSION

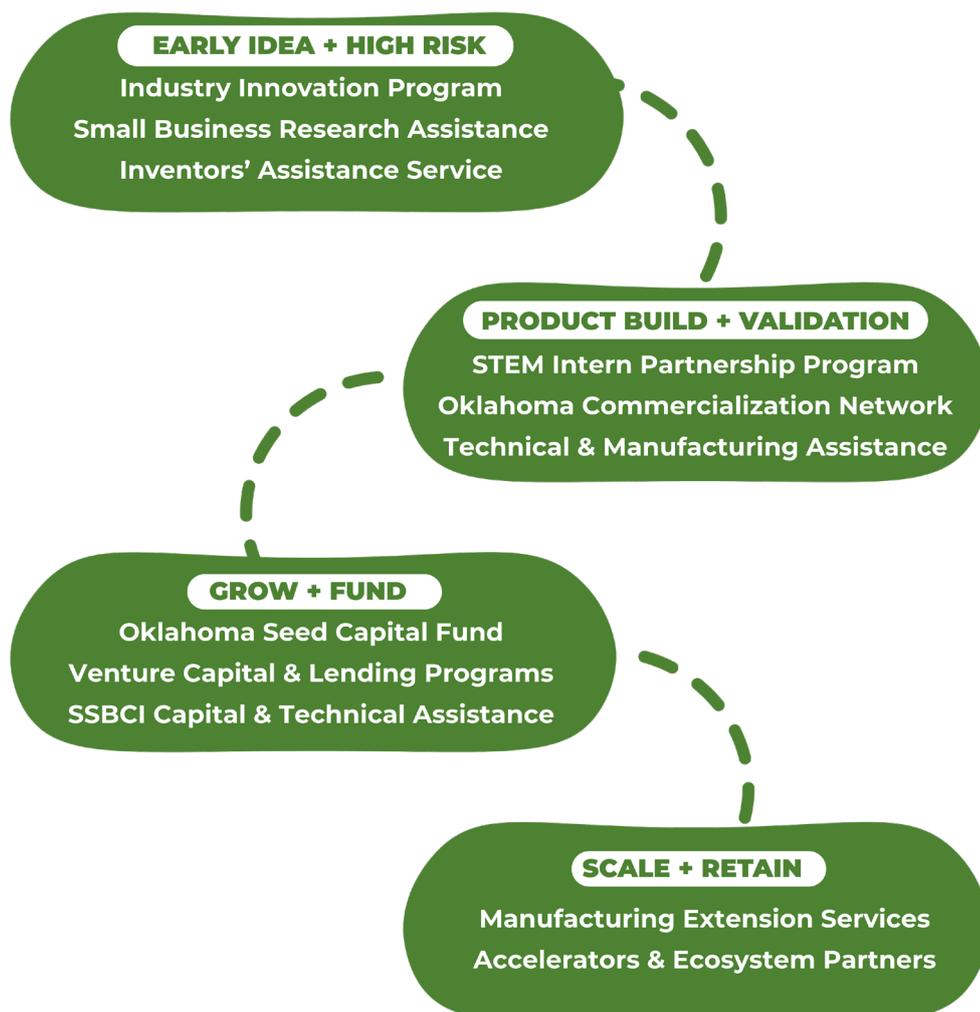
# FILLING THE GAPS THAT STOP INNOVATION

## Where OCAST Steps In When Ideas Risk Stalling

New companies rarely move in a straight line. Many good ideas stall between stages when the work is too early for private investment, when a team cannot afford the talent it needs, or when a company is ready to grow but lacks capital or technical support.

OCAST exists to step in at those moments. The agency’s programs and services are tools designed to fill the gaps that often stop startups from moving forward. By providing early funding, hands-on support, access to talent, and pathways to capital, OCAST helps companies keep building instead of stalling or leaving the state.

Together, these tools support the full path from idea to company to growth, making it easier for startups to start, scale, and stay in Oklahoma.



# TABLE OF CONTENTS

<b>Message from Jennifer McGrail</b>	<b>p. 2</b>
<b>Innovation in Motion</b>	<b>p. 4</b>
<b>Mission, Vision, &amp; Core Values</b>	<b>p. 6-7</b>
<b>Programs &amp; Services</b>	<b>p. 8</b>
<b>Access to Capital</b>	<b>p. 9</b>
<b>Accelerator Program</b>	<b>p. 10-11</b>
<b>Internship Partnership Program</b>	<b>p. 12-15</b>
<b>Audit Process</b>	<b>p. 16</b>
<b>Company Success Stories</b>	<b>p. 18-29</b>
<b>Oklahoma Innovation Expo</b>	<b>p. 30-31</b>
<b>Data Dictionary</b>	<b>p. 32-33</b>
<b>OCAST Staff and OSTRaD Board</b>	<b>p. 34-35</b>

# MISSION, VISION &

OCAST's **mission** is to advance science and technology in Oklahoma by fostering innovation, driving economic resilience, and empowering businesses to thrive in a competitive global economy. We are committed to creating pathways for entrepreneurs, researchers, and industries to collaborate, develop groundbreaking ideas, and bring transformative solutions to market.



# & CORE VALUES

## OCAST'S VISION

**WE FUEL BOLD IDEAS THAT BECOME SCALABLE STARTUP COMPANIES AND STARTUP TECHNOLOGIES SO INNOVATORS, BUSINESSES, AND COMMUNITIES CAN GROW OKLAHOMA'S ECONOMY AND QUALITY OF LIFE TOGETHER.**

**EVERY ACTION AND DOLLAR WE INVEST DELIVERS MEASURABLE RESULTS FOR INNOVATORS, TAXPAYERS, AND THE STATE.**

“

OCAST's vision is rooted in what comes next, building an Oklahoma where innovation is not occasional, but constant.

- DAN LUTON, OCAST DIRECTOR OF PROGRAMS

”

# PROGRAMS & SERVICES

## Industry Innovation Initiative

Offers up to \$500,000 in matching funds for innovative projects with significant economic potential for Oklahoma. This program requires recipients to provide a minimum of a dollar-for-dollar match for every state dollar awarded.

## STEM Intern Partnership Program

Connects Oklahoma CareerTech and higher education students with local companies to tackle real-world innovation challenges. Supported by OCAST funding and matched by industry partners, the program strengthens STEM talent pipelines and accelerates career development across the state.

## Small Business Research Assistance

In partnership with **OK Catalyst**, provides no-cost training and mentorship programs to help small businesses find federal funding opportunities and create competitive proposals.

## Oklahoma Accelerator Program

Helps early-stage startups build stronger companies by connecting founders to mentors, resources, and capital through accelerator programs in Oklahoma City, Tulsa, and rural Oklahoma, with rural delivery in partnership with the **Oklahoma Farm Bureau**.

## Industrial Extension Service

In partnership with **Oklahoma Manufacturing Alliance (OMA)**, a network of trusted experts work with manufacturers to help them grow and evolve. When

manufacturers are strong, communities prosper and our state's economy thrives.

## Inventors' Assistance Service

In partnership with the **OSU New Product Development Center (NPDC)**, with locations at OSU-Stillwater, OSU-Tulsa, OSU-Hamm Institute for American Energy campuses. Provides guidance and resources for Oklahoma's inventors in the areas of patent research, engineering and design assistance, and prototype generation.

## Oklahoma Commercialization Network (OCN)

Led by **i2E**, in partnership with **The Verge OKC**, **REI Oklahoma**, and **Gradient**, the Oklahoma Commercialization Network connects entrepreneurs to practical support through a statewide network of partners. Through this network, founders can access workspace, mentoring, pitch preparation, and connections to potential funders and investors, helping companies move forward at different stages of growth.



# ACCESS TO CAPITAL

## Oklahoma Seed Capital Fund

The Oklahoma Seed Capital Fund uses state-appropriated dollars to make early investments in innovative Oklahoma companies and to help attract private capital alongside them. These investments are designed to step in when companies are too early for traditional financing but ready to grow. By requiring private co-investment, the fund helps reduce early risk while keeping companies rooted in Oklahoma.

The fund is deployed in partnership with experienced investment managers to ensure capital is placed responsibly and alongside private investment. **Plains Ventures**, a subsidiary of i2E, manages seed investments on behalf of OCAST and works directly with founders to support company growth. OCAST also invests through partner-managed funds, including the **Generation Food Rural Partners Fund**, which is licensed under the U.S. Department of Agriculture's Rural Business Investment Program. This designation allows the fund to invest in smaller, high-potential businesses that create growth and jobs in rural

OCAST receives federal funding from **U.S. Treasury State Small Business Credit Initiative (SSBCI)** to improve access to capital for innovators in Oklahoma through three programs: Oklahoma Business Lending Partnership, Oklahoma Venture Capital Investment Program, and Technical Assistance Program.

## Oklahoma Business Lending Partnership Program (OBLP)

The Oklahoma Business Lending Partnership Program will provide non-dilutive loans to businesses in Oklahoma. Administered by **TEDC Creative Capital**.

## Technical Assistance Program

Funded by the U.S. Department of the Treasury, the **OCAST SSBCI TA** Partnership provides legal, accounting, and financial support to underserved rural communities, preparing them for Oklahoma's SSBCI capital and other federal opportunities. Services are delivered through OCAST with Oklahoma Farm Bureau, the Oklahoma Minority Founders Accelerator, and gener8tor.

## Oklahoma Venture Capital Investment Program (OVCI)

OCAST will allocate funds through the Oklahoma Venture Capital Investment Program (OVCI) to boost the state's economy and grow private venture capital by investing SSBCI dollars in Oklahoma-based funds.

### Participating Venture Funds:

- **46 Capital**
- **Boyd Street Ventures**
- **Cortado Ventures**
- **Oklahoma Life Sciences Fund (OLSF)**



The Oklahoma Grassroots Rural & Ag Business Accelerators program, powered by OCAST, is a collaborative rural development initiative from Oklahoma Farm Bureau along with national and state-level partners that develops Oklahoma-based innovators creating ideas, technologies, and products creating economic opportunities in rural Oklahoma.

# BUILT IN THE FIELD

## How 4AG is Growing Oklahoma Manufacturing One Product at a Time

Spencer Smith did not start 4AG with a roadmap. He started by doing the work himself. Manufacturing. Shipping. Invoicing. Talking to dealers. Fixing problems as they came up. At the time, there was no business accelerator to guide him through the process.

“I learned everything the hard way,” Smith said. “The Oklahoma Grassroots Accelerator didn’t exist yet.” Years later, when the Oklahoma Grassroots Accelerator launched with support from OCAST, Smith saw an opportunity. Not a shortcut, but a way to sharpen what he had already built.

### ▼ From Experience to Expansion

4AG began with a single product: a gauge wheel tire designed for no-till farming. Manufactured in Oklahoma, it outlasts standard alternatives so significantly that Smith has yet to see one wear out.

From there, the company expanded into additional tires, closing wheels, and the Catch-All Bag, a simple solution that keeps hay net wrap out of truck beds and roadside ditches.

Before producing a single unit, Smith tested demand by calling dealers. “If even 20 percent say they’d use it, that’s enough for me to move forward,” he said. The response exceeded expectations. The accelerator did not create the idea. It validated it.

### ▼ Confidence as Capital

For Smith, the most transformative part of the program was mentorship. His mentor, David Woods, offered candid guidance on growth, scale, and the realities of manufacturing.

“That was probably the most transformative part,” Smith said. “He’s been through a lot of what I’m going through now.”

### ▼ OCAST as the Connector

Through OCAST’s support, the Grassroots Accelerator connects founders to mentorship, credibility, and networks that are often hard to reach alone. It reinforces a core belief behind OCAST’s work: innovation can happen anywhere in Oklahoma, and it deserves support wherever it takes root.



# GROWING TALENT AT THE SOURCE

## Inside Cortado Ventures' Internship Program

At Cortado Ventures, internships are immersive by design. Students engage in hands-on, analytical work that prepares them for real careers in venture capital, product development, and entrepreneurship. Since launching the program, Cortado has steadily expanded both its scope and impact, with growth accelerating through support from OCAST's STEM internship program.

### ↘ Expanding Opportunity Through Support

Cortado's internship program existed before OCAST support, but in its early years it was limited in scale, with one intern at a time and a narrow reach. That changed in 2021 with OCAST funding.

Today, Cortado regularly brings on two to three interns at a time, and in some years as many as four. This year alone, the program received more than 300 applications, a significant increase from the roughly 80 applications in earlier years. OCAST support has made this growth possible by enabling Cortado to expand participation and strengthen the overall internship experience.

### ↘ Work That Matters

Cortado interns do more than observe. They support active research across the firm's portfolio, working alongside founders in sectors such as medtech and energy technology. For STEM students, the program opens access to career paths that are often difficult to reach in Oklahoma, including venture capital, product development, and early-stage technology.

Interns take on meaningful responsibilities, organizing complex data, building financial models, analyzing databases, and contributing to product development efforts. This work shows how technical decisions, data, and capital come together inside real companies. In some cases, interns have played a critical role in preparing companies for fundraising by identifying gaps in financial models and presenting findings to the Cortado team and founders.

### ↘ Retaining Talent

The results speak for themselves. The program has achieved a 100 percent job placement rate among its interns. Some have gone on to launch their own companies in Oklahoma, while others gained startup experience elsewhere and returned ready to reinvest their skills locally.

OCAST's support has enabled Cortado to do more than operate an internship program. It has allowed the firm to build a pipeline of talent that strengthens Oklahoma's entrepreneurial ecosystem from the inside out.

# BUILDING OKLAHOMA'S STEM INNOVATION

# BUILDING TALENT WHERE IT MATTERS

## Inside ZDEN Technologies and Oklahoma's Next Generation of Innovators

At ZDEN Technologies, interns do not observe from the sidelines. They contribute to real work, support active client deliverables, and in some cases step directly into full-time roles. Through OCAST's STEM Internship Program, ZDEN transforms internship experience into measurable impact for both the business and the state.

### ▾ Learning by Doing, Not Observing

ZDEN operates in complex, highly regulated environments where the work matters immediately. That expectation extends to interns.

Interns at ZDEN contribute to active customer deliverables tied directly to contract funding. The work they support spans complex systems with applications that include national security and other high-stakes environments. During an OCAST visit, the team shared that interns were actively preparing to present their work to a client. Once approved, that work would trigger payment on a contract.

This level of responsibility is intentional.

### ▾ A Different Kind of Internship

ZDEN's internship model is built around trust and autonomy. Interns are embedded in teams, not isolated, and are encouraged to ask questions, take risks, and solve problems alongside experienced professionals. With a flat structure, titles matter less than contribution. That culture has resonated with interns from diverse backgrounds, including returning students and career changers.

One intern, who previously owned a restaurant and worked in beverage manufacturing, described the experience as a complete career shift. With no prior technical background, she initially took an unpaid internship to gain experience, and today credits ZDEN's mentorship and real-world exposure with accelerating her learning far beyond the classroom. "It doesn't feel intimidating," she said. "Everyone helps you figure things out. You're treated like part of the team."

### ▾ Connecting Education, Industry, and Opportunity

This is where OCAST's role becomes essential. By investing in internship programs like ZDEN's, OCAST bridges the gap between education and industry, giving students access to meaningful, paid opportunities while providing companies with skilled contributors working on real projects that support business objectives. The result is a stronger, more resilient innovation ecosystem for the state.

ZDEN's story is not just about individual success, but about what happens when public investment aligns with private vision. Interns leave with confidence, skills, and careers, while the company grows with talent that understands its mission and contributes from day one. In turn, Oklahoma moves forward with a workforce built to compete.



ATION WORKFORCE

# STEM INTERN SUCCESSES

## Building Skills. Creating Pathways. Shaping Oklahoma’s Future

Startups and growing companies often rise or fall based on their ability to attract talent early. The OCAST STEM Internship Program helps remove that barrier by connecting Oklahoma companies with high-caliber CareerTech and degree-seeking STEM students in real-world, innovation-driven roles.

Eligible companies can receive up to \$30,000 per year to support intern salaries and project costs tied directly to product development, technology advancement, and business growth. Companies provide matching funds and meaningful, hands-on work that contributes to measurable milestones. For startups, the program offers critical capacity when full-time hiring is out of reach; for students, it delivers applied experience that builds career-ready skills and strengthens Oklahoma’s long-term innovation workforce.



**Aaron L.**

CORTADO VENTURES

That internship was my first real exposure to venture capital and working alongside founders. It directly shaped the work I do now. The value I’m able to create for the ecosystem today is because of my experience in the internship.



**Gary K.**

ZDEN

This internship helped me grow through hands-on experience, not observation. I gained space to ask questions, take risks, and strengthen my technical skills while developing communication, adaptability, and a clearer understanding of workplace expectations.



**Grant M.**

CORTADO VENTURES

There isn’t much more valuable to invest in than programs like this. Supporting internships through OCAST is how you keep students, talent, and businesses in Oklahoma and build value that otherwise wouldn’t exist.

“

Learning is part of the job. We want to see how quickly they can pick things up, how they communicate, and how they respond when the work gets hard.  
- Brian Pitts, ZDEN

”

“

The level of talent is incredible. They walk away with tangible skills and real confidence.  
- Mansi Patel, Cortado

”



**Josh D.**

ZDEN

One of my favorite things here is that you have experts in their field you can just walk up and talk to like a normal person. At ZDEN, people actually mentor you, you get direct leadership and training, and it feels like you're being developed.



**RAEED Z.**

CORTADO VENTURES

The internship built my confidence and immersed me directly in Cortado's work. I wasn't on the sidelines. I helped develop technical systems, learned how the venture ecosystem truly functions, and gained momentum to start building my own company.



**ASHLEY D.**

ZDEN

I completely changed careers and had no experience at all. I knew I had to start somewhere, so I pushed hard to get an internship. Honestly, I've learned more here than I think I learned in most of my classes. Everything I know so far, I've learned from this team.

# ACCOUNTABILITY, EVERY YEAR

## Independent Oversight Behind OCAST's Work

Each year, OCAST engages an independent auditing firm to review its financial statements, internal controls, and compliance with state and federal requirements. The process is consistent, external, and designed to surface any issues that may exist.

### Independent by Design

OCAST's audit is conducted by Finley & Cook, PLLC, an Oklahoma-based public accounting firm with deep experience auditing governmental entities. The firm operates independently and follows professional auditing standards required for public organizations.

As part of the audit, Finley & Cook reviews financial statements, evaluates internal controls, and examines whether transactions are recorded accurately and consistently. The auditors also assess whether accounting standards are applied appropriately and disclosures are clear.

In the most recent audit cycle, Finley & Cook reported no disagreements with management, no material weaknesses, and no uncorrected misstatements identified during their work.

### What the Review Confirms

The purpose of an audit is not affirmation. It is scrutiny. Audits are required to report financial errors and to control deficiencies or instances of noncompliance if they are found.

In this case, none rose to a level requiring reporting. Auditors also noted no difficulties working with management and no instances of fraud or illegal acts identified during the engagement.



Independent review strengthens public trust and ensures OCAST remains a responsible steward of every dollar invested in innovation.

- KRISTI HOWES, OCAST DIRECTOR OF ADMINISTRATION AND FINANCE



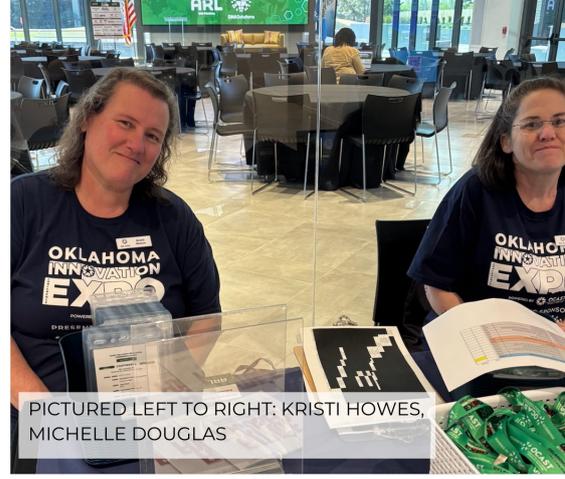
REVIEW OUR  
LATEST  
AUDIT REPORTS



**OCAST'S TEAM MEMBERS**



PICTURED LEFT TO RIGHT: ASHLEY STUART, MAKEBA GRIFFIN, TESSA NORTH, LINDSEY MILLER, JADEN O'BRIEN



PICTURED LEFT TO RIGHT: KRISTI HOWES, MICHELLE DOUGLAS



PICTURED LEFT TO RIGHT: MARK BALLARD, LAURA SOHL-SMITH



ZHONDA VINEY



JENNIFER MCGRAIL



DAVID WALKER



EMMER MUMINA



PICTURED LEFT TO RIGHT: JESSICA SIFUENTES, DAN LUTON



SAM SNOW



PICTURED LEFT TO RIGHT: MAKEBA GRIFFIN, LINDSEY MILLER, KRISITNA WADLEY



OCAST STAFF AT THE DEVELOPMENT OF INNOVATION HALL

# HOW PARANANO TURNED OKLAHOMA SUPPORT INTO GLOBAL MOMENTUM

# ParaNano

ParaNano's growth has been built step by step, supported through product development, manufacturing, and clinical validation, allowing the company to scale without leaving Oklahoma.

Co-Founder and CEO Chelsea Luxen first partnered with the Inventor's Assistance Program, powered by OCAST, in 2015. That relationship continued as ParaNano Wound Care took shape.

"We would not be where we are today without them," Chelsea said. "Every non-dilutive funding submission we've won has been supported through that partnership."

As the science matured, ParaNano layered in additional support through programs powered by OCAST, including the Oklahoma

Manufacturing Alliance, OK Catalyst, and the Technology Business Finance Program.

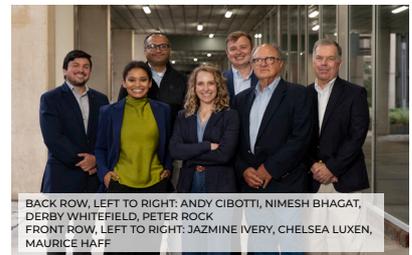
Manufacturing soon became the greatest challenge. Early assessments revealed gaps in Oklahoma's medical device manufacturing capacity. Instead of relocating, ParaNano helped build the missing infrastructure.

Through Industry Innovation funding, the company established one of Oklahoma's first medical device manufacturing pilot facilities at Meridian Technology Center in Stillwater. The site is now an FDA-registered Current Good Manufacturing Practices facility producing ParaNano's wound care technology.

That milestone helped reduce investor risk and accelerate growth, including an

oversubscribed seed round and a multimillion-dollar Department of Defense contract.

Today, ParaNano is partnering with Bethany Children's Health Center in Oklahoma City to collect its first patient data through a pediatric clinical study focused on early detection of infection in complex wounds.



OCAST's role has been continuity: connecting programs, partners, and resources that help science-backed companies move from idea to real-world impact.

“Without OCAST and its partner programs, we would have been forced to go outside the state,” Chelsea said. “Or we simply would not exist.”  
-Chelsea Luxen, ParaNano



PICTURED (L) PARANANO WOUND CARE PRODUCT SAMPLE

# GROWING MINDS, GROWING OKLAHOMA

# Boddle

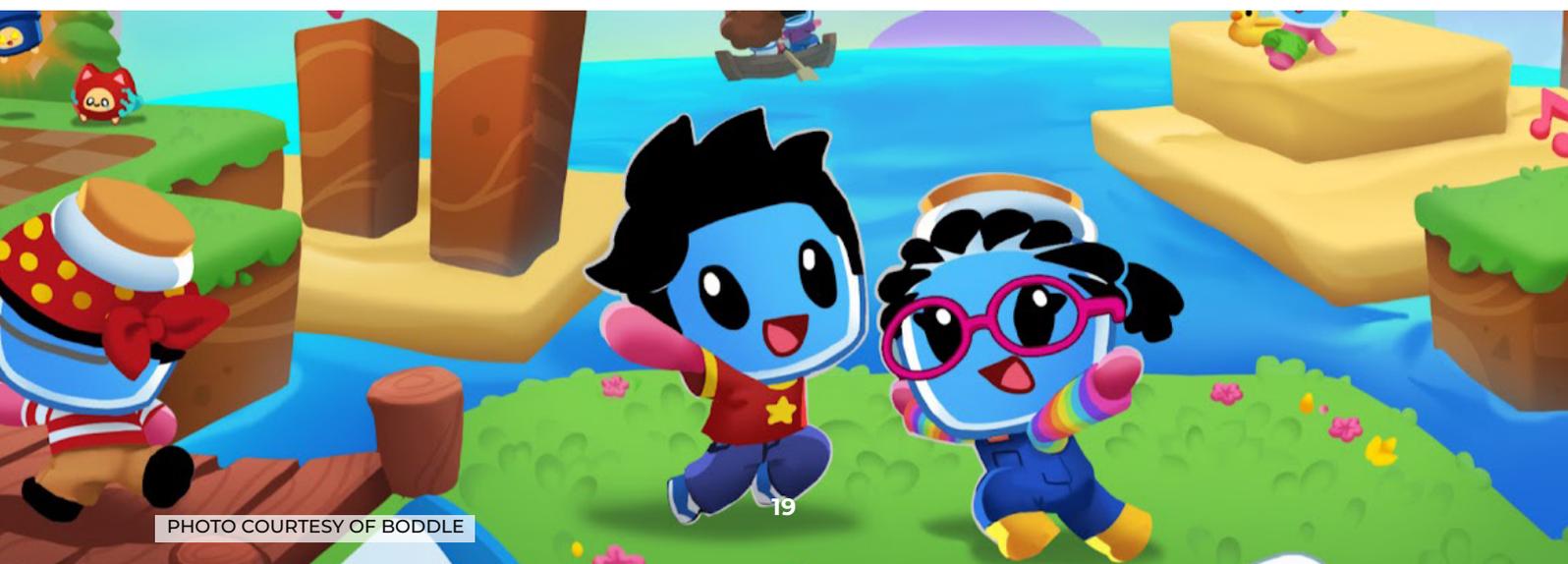
When Clarence Tan and Edna Martinson launched Boddle Learning in 2018, they envisioned a world where learning felt joyful and personal for every child. With support from the Oklahoma Seed Capital Program, powered by OCAST in partnership with Plains Ventures, what began as an Oklahoma startup idea has grown into a platform that is helping transform how K-6 students build confidence in math and reading.

Boddle blends instructional videos, practice questions, and adaptive technology into an interactive game that feels like play but functions like a personalized tutor. Teachers and parents use it for blended learning, remediation, and intervention, while students receive support at their own pace.

The company's technology includes a web and mobile game, portals for educators and families, and a proprietary learning algorithm. Its content management system helps publishers create digital courses while giving teachers real-time insight into student progress and growth.

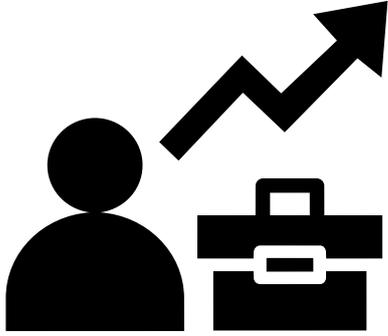
The impact goes far beyond financial returns for Oklahoma investors. Boddle stands as a homegrown educational innovation, a contributor to tech-sector job creation, and a model of what is possible when bright ideas are supported early and allowed to grow. It is what future-focused investment looks like: a company rooted in Oklahoma, scaling far beyond

“It feels like a game, not schoolwork, and it helps me learn.”  
-LILY, BODDLE USER, AGE 10



# MEASURING WHAT WE

Turning Investment into Measurable Results



**2,868**  
JOBS CREATED/  
RETAINED



**29.7%**  
HIGHER SALARY  
THAN OKLAHOMA  
AVERAGE



**\$254M**  
FOLLOW-ON FUNDS



**\$1.07B**  
TOTAL FINANCIAL  
IMPACT

# HAT MATTERS

Building Skills. Creating Pathways. Shaping Oklahoma's Future.

73

STEM INTERNS  
SUPPORTED

78

NEW  
PATENTS

83

NEW  
PRODUCTS

## OCAST INVESTMENTS SHOW CLEAR RETURNS FOR THE STATE

In FY2025, For every \$1 appropriated to OCAST, Oklahoma innovators returned nearly \$25 in salaries, wages, and follow-on capital. Results are collected each year and show both immediate impact and lasting growth.

FISCAL YEAR 2025 JULY 01, 2024 - JUNE 30, 2025

# KECO MANUFACTURING

**\$800,000** IN COST SAVINGS

**\$100,000** NEW CAPITAL INVESTMENTS

**\$200,000** NEW ANNUAL SALES

**3** JOBS RETAINED

**7** NEW HIGH-WAGE JOBS

# BUILDING SKILLS FOR A STRONGER FUTURE

At Keco Manufacturing in Oklahoma City, every product that leaves the factory floor carries the hands-on precision of workers who take pride in what they build. Behind the scenes, however, the company faced a challenge that many manufacturers understand. Finding enough skilled people to keep production steady and machines well-maintained had become increasingly difficult.

For Operations Manager Mike Britten, the issue was not only about productivity. It was about the people who show up every day to keep the company moving. Every hour of machine downtime meant added pressure on his team and a lingering worry about whether Keco could continue to grow without a stronger pipeline of trained talent.

That was when Keco turned to a trusted partner, the Oklahoma Manufacturing Alliance, which operates as a partner of OCAST. Workforce Development leader Sharon Harrison looked closely at the company's needs and helped build a solution that would not simply fill open roles but would support long-term career growth. Together, they created a registered apprenticeship program designed specifically for Keco's machinery and processes.

The program began with four apprentices, a mix of young individuals starting their careers and experienced workers who wanted to take on new challenges. While the structure followed a traditional apprenticeship model, the heart behind it reflects OCAST's broader mission to develop talent. It aligns with the goals of the stem intern program, which also helps connect emerging professionals with meaningful hands-on experiences in Oklahoma employers.

With Sharon's guidance and support from federal grants, Keco was able to launch a training pathway that strengthens employee skills and prepares apprentices to become highly capable maintenance technicians. These are the essential roles that keep manufacturing lines running smoothly and efficiently.

The impact of this effort can be felt across the company. Employees are learning, advancing, and stepping into more complex responsibilities. Production downtime has dropped, confidence has grown, and Keco now

has a reliable way to develop skilled workers from within. OMA engineers also helped the company acquire new equipment that makes maintenance faster and easier.

## The results are significant.

Still, for Britten, the greatest success has been watching people thrive. "The apprenticeship program has provided us with highly skilled workers who meet our specific and unique needs," Britten says.

For Keco, this initiative became more than a training solution. It increased the workforce, reinforced a culture of growth, and demonstrated how OCAST-supported programs help Oklahoma companies invest in people, strengthen communities, and shape a stronger manufacturing future.

“Keco was able to launch a **training pathway** that strengthens employee skills and prepares apprentices to become **highly capable** maintenance technicians.

- Mike Britten, KECO Manufacturing

# OKLAHOMA INNOVATION PROTECTING WHAT MATTERS

# Senslytics

Senslytics is transforming how the energy industry predicts high-risk events through its patented causal AI technology, Intuition AI. With support from the OCAST Industry Innovation Program, and through participation in programs offered by The Verge, part of OCN powered by OCAST, the company is applying this breakthrough approach to one of Oklahoma's most important challenges: identifying and forecasting corrosion inside oil and gas pipelines.

Intuition AI works differently from traditional machine learning. It blends scientific modeling with expert hypotheses and can handle limited data, long delays between cause and effect, and sudden shifts in system behavior. The technology has already proven itself in trials with Shell and Chevron, where it improved reservoir estimation by interpreting complex geological signals.

The OCAST Industry Innovation award is helping Senslytics adapt this same capability to corrosion prediction. By keeping outliers, incorporating new expert insights, and using a process called multi-view convergence, Intuition AI builds a clear, explainable picture of what is happening inside a pipeline. This reduces false alarms and missed warnings while providing operators with earlier, more reliable risk indications.

For Oklahoma, the impact is significant. Senslytics is strengthening energy safety, advancing AI innovation, and demonstrating how state investment can spark technologies that reinforce existing infrastructure to protect communities and support a critical industry. It represents a future where high-consequence events can be anticipated before they happen, and where Oklahoma helps lead the way.



## TURNING DEEP TECHNOLOGY INTO SURGICAL IMPACT

Jeff Potts keeps a pair of goggles within reach for calls. As Chief Technology Officer, he is building software that allows surgeons to see clinical imaging overlaid directly onto a patient's body. A surgeon puts on the headset and sees vessels to avoid, where an implant should land, and where bone cuts should be made. Guidance appears in three dimensions, exactly where it matters. Xironetic builds the software that enables augmented reality in surgery.

"It's basically X-ray vision," Potts said, describing a platform that blends augmented reality, computer vision, and AI into a tool designed for the operating room.

Healthcare is built on evidence and risk mitigation. Hospitals require proof. New workflows take time. Adoption moves at the pace of trust.

### A Funding Story That Changed the Business

This is where OCAST enters the story. Potts applied to the Industry Innovation program twice. The first time, independent reviewers saw a compelling technical idea but not enough near-term commercialization. So the team refined the scope and clarified the path to adoption. When they applied again, it worked.

The award helped Xironetic hire talent and develop functionality that allowed multiple headsets to connect and share the same experience. That capability helped the company gain traction and convert early engagement into multiyear service contracts.



### What Leaders Need to Understand

Potts does not believe deep-tech companies are common in this region, not due to a lack of ideas, but a lack of early resources. Some innovations take time to prove, but can become economic bellwethers when they succeed.

Potts believes there is a middle zone where timelines are practical, potential is high, and funding is hardest to secure. This is where targeted state investment can have outsized returns by de-risking the unfamiliar.

And when it works, it does more than create revenue. It builds talent and proves that frontier technology can scale from Oklahoma.

# Tobe Energy

## TULSA'S NEXT BIG ENERGY PLAY

The University of Tulsa and Hurricane Ventures made an investment in Tulsa-based startup Tobe Energy, founded by TU alumni Colby DeWeese and Caleb Lareau. The funding will accelerate Tobe's mission to make clean hydrogen production cheaper, more efficient, and widely accessible, supporting the transition to a low-carbon economy.

### Scaling Forward

In addition to this investment, Tobe Energy has received commercialization support through the Oklahoma Commercialization Network (OCN) powered by OCAST and utilized OCN's trainings offered through Gradient in Tulsa to advance its technology from development toward deployment.

### Hydrogen Simplified

Tobe Energy is developing a new class of electrolyzers, devices that split water into hydrogen and oxygen with no emissions. Their membrane-free system promises to simplify the production process, cut costs by up to 75 percent, and reduce waste heat.



TOBE ENERGY TEAM PICTURED LEFT TO RIGHT: PADEN SCRIBNER, LOUIS MOUNSEY, COLBY DEWEESE, SLADE OUTLAW, TIRTHASARATHI LODH, AUSTIN BALDINGER

# FROM NURSE BURNOUT TO BREAKTHROUGH

When nurse and emerging entrepreneur Devin Patterson found herself overwhelmed by renewal deadlines and compliance paperwork, she realized the challenge was widespread. In healthcare, licenses and certifications are critical, and a single missed deadline can have serious consequences.

After sharing her frustration with software developer Shadrach Igwe, the two searched for a solution. When none existed they couldn't manage credentials effectively at scale, they created CerTracker, a secure platform designed to centralize credential tracking for clinicians and healthcare organizations.

The founders connected with the Oklahoma Commercialization Network (OCN), powered by OCAST, and participated in the E3 bootcamp before advancing into the Bridge2 pre-accelerator. Through more than 100 stakeholder interviews, they uncovered a key insight: healthcare systems needed better tools to manage compliance across entire teams, not just individual providers.

That discovery led to CerTracker Manager, an enterprise dashboard that gives administrators real-time visibility into staff compliance and helps address gaps before they become risks.

With support from OCN, CerTracker refined its business model and investor readiness. The company was later accepted into the W. E. Build Accelerator and received a \$25,000 non-dilutive award to strengthen the platform and expand its presence.

Today, CerTracker reduces administrative burden, improves audit preparedness, and helps healthcare teams stay focused on patient care.

# CerTracker



PICTURED LEFT TO RIGHT: TWO AMERICAN NURSE ASSOCIATION PARTICIPANTS, CERTRACKER FOUNDERS DEVIN PATTERSON, SHADRACH IGWE



# RAE CORPORATION

## BIG RESULTS, BRIGHT FUTURE

Thanks to the collaboration with OCAST and the OMA, RAE Corporation has seen measurable success:

**\$5M**  
IN NEW  
SALES

**\$220,000**  
AVERAGE STARTING  
SALARY

**24**  
JOBS  
RETAINED

**9**  
NEW HIGH-  
WAGE JOBS

PICTURED: RAE CORPORATION WITH MACHINE AND STAFF

# RAISING THE BAR ON QUALITY WITH OCAST

RAE Corporation in Pryor, Oklahoma has spent more than 50 years building world-class heating, cooling, and refrigeration systems. With a 400-person team and a reputation for craftsmanship, the company has grown into one of Oklahoma's manufacturing standouts.

As RAE expanded, leadership focused on a new challenge: how to keep every part of the operation aligned and performing at the highest level. That is when they partnered with the Oklahoma Manufacturing Alliance (OMA), powered by OCAST, to strengthen their quality management systems.

John Jackson, RAE's Director of Management Systems, reached out to OMA extension agent Brad Chambers to help build a stronger foundation for long-term growth. Together, they brought in Wade Wilson, a quality systems expert specializing in ISO standards and operational improvement.

With support from OCAST and OMA, Wilson guided the team through hands-on ISO training, helping employees identify inefficiencies, reduce risk, and improve processes from the inside out.

The impact went beyond compliance. RAE's internal

auditors gained new skills to evaluate systems across departments, driving smarter workflows, stronger quality controls, and greater confidence across the team. Chambers continues to support RAE through ongoing improvement projects that reduce waste and strengthen long-term competitiveness.

OCAST's partnership with RAE highlights what happens when Oklahoma manufacturers have access to practical expertise and tools. The result is stronger systems, stronger teams, and a stronger future for communities across the state.



COMMERCIAL COOLING SYSTEM ENGINEERED & MANUFACTURED BY RAE CORPORATION

# OKLAHOMA INNOVATION CONFERENCE & EXPO

The Oklahoma Innovation Conference & Expo is OCAST's premier statewide event celebrating bold ideas, breakthrough technologies, and the innovators shaping Oklahoma's future. Held in both Oklahoma City and Tulsa, the conference brings together entrepreneurs, investors, industry leaders, policymakers, educators, and students to connect, collaborate, and spark new opportunities across the state's innovation ecosystem.

## OKLAHOMA CITY

The OKC edition is a two-day experience featuring keynote speakers, expert panels, and networking opportunities on Day 1, followed by the Innovation Expo on Day 2 at the State Capitol.

The expo showcases over 50 exhibitors, cutting-edge tech, and the Young Innovators Showcase some of their amazing inventions.

**OKLAHOMA CITY EDITION  
SAVE THE DATE!  
APRIL 22-23, 2026**

## TULSA

The Tulsa edition is a one-day networking event that brings together innovators, founders, investors, and community leaders to build connections and highlight regional momentum.

Held in a casual, engaging environment, this edition features startup spotlights and conversations that foster collaboration and celebrate the energy of NE Oklahoma's growing innovation ecosystem.

**TULSA 2026 EDITION  
TO BE ANNOUNCED**

**MORE  
INFORMATION:**





Day 1 | Conference at Innovation Hall | OCAST Staff



OKC DAY 1 CONFERENCE AT INNOVATION HALL  
LEFT TO RIGHT: MICKEY LOVELESS, LINDSEY MILLER,  
MAKEBA GRIFFIN, CARLY COLLINS MCNEILL



Day 2, Expo at the State Capitol | i2E Booth Participant



Tulsa 2025 Event at ONEOK Field:  
Left to right, Shenna Jean, Ashley Stuart



OKC Day 2, Expo at the State Capitol (Rotunda)



Day 2, Expo at the State Capitol | MidAmerica | Booth Participant



Tulsa 2025 Event at ONEOK Field:  
Build in Tulsa - Tulsa Accelerator Cohort



Day 2, Expo at ONEOK Field



31 Representative Brian Hill visiting Leavett Biles' booth on OCAST Expo at the State Capitol

# DATA DICTIONARY

To support clear and consistent communication across OCAST's network of partners, the agency developed the State's first Innovation Glossary. This resource brings together commonly used terms and definitions in one place to reduce confusion and promote shared understanding. By using a common set of definitions, OCAST helps align program planning and reporting and ensures that partners are using the same language when discussing innovation in Oklahoma—both today and in the future. This shared vocabulary strengthens collaboration, improves accuracy, and supports better coordination across organizations and initiatives. Below is a selection of key terms from the Glossary that appear throughout this report.

**Accelerator:** A short program that helps new companies grow faster. Companies receive coaching, training, and sometimes a small amount of funding. The program usually ends with a public event where companies share their ideas.

**Bootcamp:** An intensive training program that helps business owners quickly learn important skills like marketing, finance, and operations.

**Dilutive Funding:** Capital that a business raises that investors offer in exchange for a share of equity in the company, thereby reducing existing shareholders' ownership percentage. Equity financing, where investors provide funding in exchange for a share in the business, is an example of dilutive funding.

**Entrepreneurship:** is the process of turning ideas into sustainable businesses that create jobs, generate economic value, and solve real-world problems.

**Gradient:** An innovation hub that exists to provide the tools, programs, and support needed to elevate businesses in the Tulsa area.

**i2E:** An organization designed to help innovators and entrepreneurs build, launch, and grow great ideas.

**Incubator:** An organization that provides targeted resources, services, and professional advice to start-up businesses and new entrepreneurs to help them get established.

**Industrial Extension System (IES):** Powered by OCAST, a coordinated network of public and private manufacturing modernization resources, the purpose of which is to stimulate the competitiveness of Oklahoma small and medium-sized manufacturing firms. This program is managed by the Oklahoma Manufacturing Alliance.

**Industry Innovation Program:** OCAST's competitive funding initiative supporting innovative projects addressing industry needs.

**Innovation:** The practice of bringing new solutions to market.

**Innovation Collaborator:** Entities that are engaged in the delivery of a service with one of the agency's innovation partners; a subcontractor to an innovation partner to provide a service.

**Innovation Ecosystem:** The network of people, organizations, and resources supporting innovation and technology development in Oklahoma.

**Innovation Partner:** Organizations or individuals with whom OCAST has a collaborative relationship that seek to grow Oklahoma's innovation economy.

**Innovation Pipeline:** The process of moving ideas from idea to customer and to market adoption.

**Inventors Assistance Service (IAS):** An OCAST-powered program designed to provide preliminary patent searches, market analyses, manufacturing referrals, engineering analyses, prototyping, and drawing/model design services for new product development. Managed by a contract with Oklahoma State University.

**New Product Development Center (NPDC):** A space offered by Oklahoma State University which provides guidance and resources to Oklahoma's inventors via preliminary patent searches, market analyses, manufacturing referrals, and other services.

**Non-dilutive Funding:** Capital that a business owner receives that doesn't require them to give up company equity or ownership. Donor contributions, grants, and tax credit programs are common examples of non-dilutive capital.

**OKCatalyst:** Powered by OCAST to serve as Oklahoma's hub for helping small businesses navigate program requirements, identify opportunities, and develop competitive proposals for the SBIR/STTR process.

**Oklahoma Commercialization Network (OCN):** Led by i2E, in partnership with The Verge OKC, REI Oklahoma, and Gradient, the Oklahoma Commercialization Network connects entrepreneurs to practical support through a statewide network of partners. Through this network, founders can access workspace, mentoring, pitch preparation, and connections to potential funders and investors, helping companies move forward at different stages of growth.

**Oklahoma Farm Bureau:** An organization that gives a voice to Oklahoma's farmers, ranchers and rural communities by supporting the agriculture community to improve the lives of all Oklahomans. An OCAST innovation partner, Oklahoma Farm Bureau manages OCAST's rural accelerator program, participates in the SSBCI TA program, and manages the Rural ARPA programs on behalf of OCAST.

**Oklahoma Manufacturing Alliance (OMA):** A network of experts who work with manufacturers to help them grow and evolve through services provided by field agents, applications engineers, and manufacturing specialists across the state. Services focus on workforce development, cost reduction, strategic planning, supply chain efficiencies, and the adoption of new technologies. OMA is an OCAST innovation partner, managing the Industrial Extension Services program.

**Oklahoma Seed Capital Fund (OSCF):** State-appropriated funds authorized to be used for seed-stage investments and capital access for innovative Oklahoma companies. The fund is deployed through OCAST and its investment partners to support early-stage business growth, leverage private capital, and expand access to investment across the state.

**Small Business Opportunity Program (SSBCI-SBOP):** A federal grant program designed to deliver technical assistance (TA) in the areas of legal, accounting, and financial advisory services to businesses owned and operated by qualified individuals. Relates to and supports the SSBCI Capital Program and SSBCI TA Grant Program. Funded by the U.S. Department of Treasury.

**Small Business Research Assistance (SBRA):** In collaboration with OK Catalyst, this program is intended

to deliver a comprehensive suite of services to increase the participation and success rate of Oklahoma-based companies in securing SBIR and STTR funding.

**SSBCI - Capital and Investment:** A federal program with the U.S. Treasury State Small Business Credit Initiative that provides funds to U.S. states, territories, and Tribal governments to create tailored programs that offer funding to small businesses and entrepreneurs through equity/venture capital, loan participation, loan guarantee, collateral support, and capital access programs.

**SSBCI - Small Business Opportunity Program (SBOP):** A federal program with the U.S. Treasury State Small Business Credit Initiative designed to deliver technical assistance (TA) in the areas of legal, accounting, and financial advisory services.

**State Small Business Credit Initiative (SSBCI):** A nearly \$10 billion program to support small businesses and entrepreneurship in communities across the United States by providing capital and technical assistance to promote small business stability, growth, and success. Funded by the U.S. Department of Treasury.

**STEM Intern Partnership Program:** OCAST program through which companies can obtain up to \$30,000 per year to cover student intern salary and project costs for innovative industry projects.

**Technical Assistance (SSBCI-TA):** A federal grant program for the provision of legal, accounting, and financial advisory services intended to help qualified businesses to access SSBCI capital or participate in other federal or other jurisdiction programs that support small businesses. Funded by the U.S. Department of Treasury.

**Technology-based Economic Development:** Growing the economy by supporting new technologies, innovation, and skilled workers.

**Venture Capital:** Financing provided to startups and early-stage companies with high growth potential, typically deployed through equity investments or convertible notes

**The Verge OKC:** A nonprofit organization in Oklahoma City that helps new entrepreneurs connect to the people and resources they need to grow their company and ideas. Resources offered by The Verge include office space, networking, events, and education.

# OCAST STAFF

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