



STRATEGY 1



Arizona Optics Initiative

Option Year Three Annual Report

January 30, 2023

Small Business Administration (SBA)

Regional Innovation Cluster (RIC) Program

Contract Number 73351019C0003

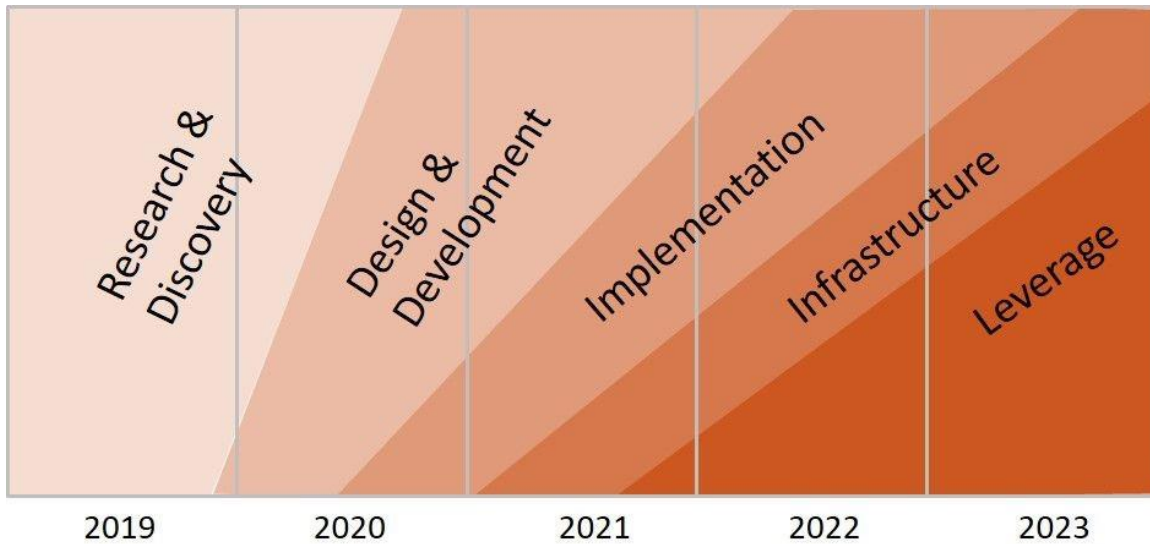


Arizona Optics Initiative 2023 Annual Report

Table of Contents

<u>Subject Area</u>	<u>Page</u>
Introduction	3
The Year in Review	5
Appendix 1 – Quarterly Performance Narrative (SBA)	17
Appendix 2 – 2022 Objectives and Results	25
Appendix 3 – Strategic Impact Plan	27
Appendix 4 – Optics Valley References	32
Appendix 5 - Program Support Resources	33

Introduction



Arizona Optics Initiative Program Overview

2022 was the rebound year from COVID for our Optics Valley activities. All our key events returned to F2F with robust participation. We kicked off the year in January with our flagship conference, 5th Annual Arizona Photonics Days. We had over 150 registrations, 30 technical presentations and 27 company pitches.

This initial Tucson event was followed by two world-wide conferences. In February, 25 of our companies exhibited at Photonics West in San Francisco. In addition, many of our companies made technical presentations. In June, eight of our companies traveled to Munich, Germany to exhibit in the Laser World of Photonics. Both of those conferences had well over 10,000 attendees.

One of the highlights of the year has been the development of a working relationship with Raytheon Technologies. This has been a project over two years in the making. The objective has been to get our small optics companies as actual suppliers to Raytheon. Raytheon needs our capabilities, and our companies need Raytheon's (and other aerospace and defense contractors') business. After much vetting of our companies, in June Raytheon hosted a two-day supplier workshop with 16 of our companies.

In addition to these major events, throughout the year, Optics Valley continued with ongoing support activities. These include:

- Quarterly Business Meetings followed by a Hosted Happy Hour for Networking



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- Monthly Tech Series Webinars
- Monthly Newsletter: *Optics Valley FOCUS*
- Supply Chain Working Group

Throughout the year, we have continued to work with Pima Community and Maricopa Community Colleges to develop programs for optics technician training. It is quite clear that programs in both Tucson and Phoenix will come to fruition in 2023.

2022 was an unusual year in that there were little to no optics / photonics companies spawned by UArizona College of Optical Sciences. There were a number of SBIR projects involving the university, and there still exist UArizona opportunities to create IP agreements to license new technology. This is an area we hope to strengthen in 2023. A meeting has been set with university leadership for early in 2023 on this topic.

Meanwhile, we have begun to engage with the University of Arizona Center for Innovation (UACI). They have more than 80 nascent companies in their incubator program, 6 of which possess optics technology. Working with UACI leadership, we have begun to work with one of the optics companies in a pilot program using our VSBA assessment to help identify gaps and encourage development of better business acumen.

To support our community visibility initiative, we had three events in 2022:

- In May, we partnered with the UArizona Flandrau Planetarium and Science Center to celebrate the International Day of Light. This was a Sunday afternoon Family Affair open to the public, with programs for both the young and old.
- In October, Optics Valley was an exhibitor and sponsor for the Arizona Technology Council 10th Annual Tech + Biz Expo.
- In November, we were a Major Sponsor for the Tucson TENWEST Festival. In that event, we participated in the judging for IdeaFunding, a pitch competition for startup companies.

One final highlight of the year: In December, Optics Valley membership reached 100. While we are proud of this accomplishment, there are still many companies that we will be reaching out to join us!

The Year in Review

January 2022, 5th Annual Arizona Photonics Days

We returned this year to a face-to-face event. There were 150 registered for this 2.5 day in-person event; 80% attended. The program included 30 Technical Presentations, 2 Panels, and 27 Company Pitches.



5th Annual Arizona Photonics Days Events

We had 29 corporate Sponsors this year for Arizona Photonics Days.

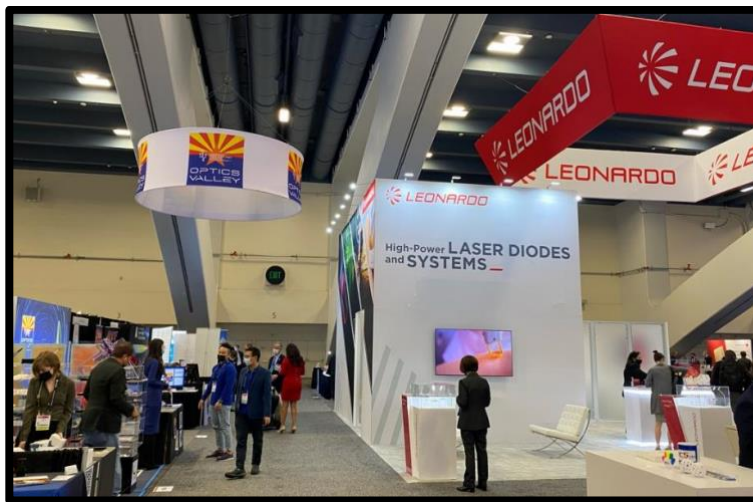


Arizona Photonics Days Sponsors

February 2022, Photonics West – San Francisco, California

There were 25 Arizona Company Exhibitors

One important addition to our activity this year is that Optics Valley had a second booth in which we hosted four of our young entrepreneurial companies. Our objective was to introduce them to this international conference with significant financial support.



2022 Photonics West Exhibition Hall, Optics Valley Exhibits



2022 Photonics West, Optics Valley Exhibitors

March 2022, Optics Valley Quarterly Meeting

The theme for this meeting was teamwork and collaboration to pursue opportunities that are too large for a single small company.




March 2022 Optics Valley Quarterly Meeting Participation

May 2022, International Day of Light Celebration

May 16th is annually designated as the International Day of Light (IDL), celebrating the invention of the laser as a scientific instrument. We took the liberty of holding a family event this year on Sunday, May 15th. This was a two-part program in partnership with the UArizona Flandrau Science Center and Planetarium. The first program focused on children and the second on adults. The event attracted several hundred attendees and the Flandrau staff said that they had never had a busier Sunday afternoon.


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International Day of Light - May 2022






INTERNATIONAL DAY OF LIGHT
Explore the science of light!
International Day of Light
July 15 on May 15!
Presented by Flandrau Planetarium




[FREE ALL AGES EVENT] SUNDAY, MAY 15
2:00-3:00 PM
MYSTERIES OF THE UNSEEN WORLD
Join us for the International Day of Light at the Flandrau Planetarium
Presented by Flandrau Planetarium
Program Host - Olivia Fehlberg, Edmund Optics



[FREE ALL AGES EVENT] SUNDAY, MAY 15
3:30-4:30 PM
DISCOVERING LIGHT
Join us for the International Day of Light at the Flandrau Planetarium
Presented by Flandrau Planetarium
3:30pm Special Program
Discovering Light with Dr. Lukas Gruber, Dr. Laird Close, Dr. Bashar Rizk, and Dr. Bruce Bayly

Sunday, May 15 at Flandrau Planetarium
Two science programs
FREE for all ages!
Web: flandrau.org > Events



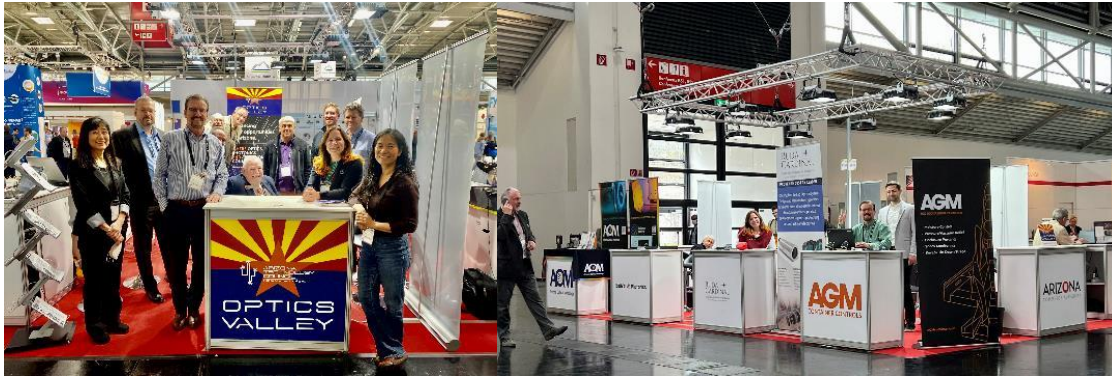
2022 International Day of Light Program Highlights



2022 International Day of Light Events

June 2022, Laser World of Photonics, Munich Germany

Optics Valley was represented by eight member companies hosted in a pavilion jointly organized with the Arizona Commerce Authority. Another 9 Arizona companies exhibited and were supported by Optics Valley in individual locations.



June 2022, Laser World of Photonics Optics Valley Exhibitors

14,938 visitors from 71 countries and 906 exhibitors from 32 countries came together on 66,000 square meters total space incl. World of QUANTUM to join one of the most important congresses in the world.

June 2022, 2nd Quarterly Meeting

Optics Valley sponsored its 2nd quarterly member meeting in June, again with record attendance.

Featured speakers were Timothy Jobe, Raytheon Sr. Manager, Material Program Management, and Rakhi Gibbons, Tech Launch Arizona Director of Licensing and Intellectual Property

June 2022, Raytheon Technologies Workshop

In June Raytheon hosted a two-day workshop for 16 of our Optics Valley members. The purpose of this event was to give our companies a first-hand look at Raytheon's needs, as well as to acquaint Raytheon engineers with our companies' capabilities. These 16 companies were vetted over a six-month process from an original 43 that were sent an RFI by Raytheon.

Additionally, these final 16 company CEOs or key leaders were taken through newly developed training and gaming situations as a pre-workshop to prepare these small companies for the challenges of working with one of the largest defense companies in the world (a Fortune 17 ranked company).

Each company filled out and presented a 4-panel template, a.k.a. the "Dance Card" to represent a connection between a need and a solution. This information was used to develop relationships within Raytheon and these 16 companies for future work. The plan is to repeat this process for another set of companies.

A large side benefit is that this process is serving as a model to Raytheon to engage with other businesses holding other technologies Raytheon needs. While this does not count for our cluster success, it does represent the spirit and intent of the SBA RIC program as a whole.

<Supplier Name> Summary (template)

<p>Overview:</p> <ul style="list-style-type: none"> • Company Basics: <ul style="list-style-type: none"> – Location(s) – Annual Sales – # Employees (by discipline) – Years in business 	<p>Future Vision:</p> <ul style="list-style-type: none"> • Where will your company be in 5 years? 10 years? • What are your obstacles to achieving these goals? • Launch Agreements that gain leverage through aggregation and breadth <ul style="list-style-type: none"> – Sub-bullet
<p>Discriminators (Strengths / Weaknesses):</p> <ul style="list-style-type: none"> • Key competencies • Where do you dominate your competition? • Where are you dominated by your competition? <ul style="list-style-type: none"> – Sub-bullet • Patents or pertinent IP 	<p>RTX Ask:</p> <ul style="list-style-type: none"> • What specifically can RTX do to help you? • How can we best promote you? <ul style="list-style-type: none"> – Sub-bullet

Leave the takeaway bar? Takeaway the takeaway bar?

Raytheon 4-Panel Chart Template

September 2022, Quarterly Meeting

Optics Valley sponsored our 3rd quarterly member meeting in September. Once again, there was “standing room only” in the conference room.

Featured speakers were Dr. Michael Mielke, AdValue Photonics CEO, and Neal J. Brock, Co-Founder 4DTechnology. Dr. Mielke spoke on Peak Performance Fiber Lasers, and Mr. Brock spoke on The Innovative Metrology Behind the James Webb Space Telescope.

October 2022, Arizona Technology Council 10th Annual Tech + Biz Expo



Presentation Attendance at Tech + Biz Expo



Optics Valley Sponsored Speaker: Dr. Marsha Rieke, key member of the James Webb Space Telescope design team.

Optics Valley also sponsored our booth at the Biz + Tech Expo, staffed by our team members. The expo was very well attended, and ran for 3 hours after the presentations concluded. A number of important contacts were made via our booth.



Optics Valley Booth Backdrop with AOI Team member Sonia Vohnout

Fall 2022, James Webb Space Telescope

In Fall of 2022, the James Webb Space Telescope began to send its initial batch of fabulous photos. Several Optics Valley member companies, as well as the University of Arizona, are involved in space exploration in multiple ways.



James Webb Space Telescope Early Photo

December 2022, Quarterly Meeting

The final event for the quarter was our 4th quarter Optics Valley Business Meeting that attracted over 40 of our members. Manny Teran, President of Infrared Laboratories, was the keynote speaker.



Manny Teran Presents at 4th Quarter Optics Valley Meeting

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December 2022, A Major Optics Valley Milestone

In December, Optics Valley membership reached 100. While we are proud of this accomplishment, growing and engaging new membership from a very modest beginning at the onset of this SBA RIC project, there are still many companies to engage into the cluster. We have only just begun!



Optics Valley Membership at 2022 Year End

Appendix 1 – Quarterly Performance Narrative

Metrics

Preamble

Our understanding, as presented by the SBA in 2019 was that this is a “research” contract and we are to investigate, learn and take action for the unique needs for this particular cluster, in our case, the optics industry in Arizona.

While our optics and photonics companies were filled with potential, they were also quite vulnerable. We learned that most of these very small technology companies basically lacked business savvy and were mostly dependent upon one main customer, or luck, for their business endeavors.

Our task quickly became one to stabilize the cluster, develop a collaborative cluster identity, create a sense of belonging that would facilitate networking, and work to demonstrate how *business development* works so they could learn to do that on their own. During the COVID-19 lockdowns, we worked with cluster companies to rationalize operations, costs, PPP, alternative funding to prevent failures. We set goals to do just that and our key metric became growth in membership in Optics Valley and participation in collaboration and networking activities. This would be a parametric of real growth because individuals tend to “vote with their feet” and if we could not provide value they would not participate.

We believe we have achieved these goals. We are proud of our work accomplishments, including:

- **Optics Valley**

When we began this organization was in “name only” and existed more as a social club of about 20 paying members and only a few would attend the meetings. Now, Optics Valley has 100 companies as members who well attended events. This success was derived from things such as:

- Monthly Tech Series webinars (Bringing bleeding edge tech and technical skills to the cluster)
- Focused industry networking (Developing skills on how to collaborate and develop long lasting relationships)
- Supply chain Workgroup and Meetups (Bringing demand generators and suppliers together)
- Online Resource Directory (Bringing visibility to member capabilities)
- Focused Workforce Development Initiative (Working with cluster companies and educational institutions to fill skill gaps)



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- Entrepreneurial company business assessments (Bringing ICorps programs and mentors together to help develop hard and soft entrepreneurial skills)
- Enhanced marketing: brochure, video, website
- Newsletter: Optics Valley FOCUS (Keeping cluster companies news about the industry)

- **Training**

We utilized customized workshops to provide a hands-on experience that taught the value of “coop-er-tition” (a guide to cooperate now to grow, and compete later), how to build relationships for business and mutual success, and to be bold in growth and opportunity pursuits. In short, help each other grow so that pie of opportunity grows for all.

- **Arizona Photonics Days**

This technology and business conference started in 2017 with only a few companies and about three dozen attendees. In 2022 we had over 150 Registered; 80% Attended from US and Europe, 30 Presentations, 2 Panels, 27 Pitches, 29 Sponsors. This January we dramatically to exceeded those numbers with over 210 registrations.

- **SPIE Photonics West**

This International conference only had a couple of Arizona companies represented years ago. In 2022, we had 25 Arizona companies represented as exhibitors with many technical presentations.

- **Defense companies**

When we began the RIC Contract, we had no relationship with Raytheon (a major optics and photonics customer in our region) and only a couple of companies doing business with Raytheon. Now, we have had over 16 of our optics and photonics companies entered in their Supplier Development process as well as key contacts inside Raytheon to further develop that relationship. Optics Valley is now a “solutions partner” with Raytheon.

Our objective is assisting in the development of subprime contractors to Raytheon who will integrate technologies and services from numerous smaller companies to deliver solutions sought. This way our cluster companies will become more valuable partners to prime defense contractors such as Raytheon.



L3 is on the horizon, as well as others who have now heard about Optics Valley and what is happening in this technology area in Arizona.

In short, we created a mindset shift from a “social club” to a true industry cluster, despite basically losing two years to the Covid-19 Pandemic—this is a culture change.

Metrics Requirement Guidance Requested

Our Arizona Optics Initiative (A.O.I.) team would like to appeal the newly imposed metrics. We believe we have a solid approach and to change focus likely represents a less than fiduciary use of federal funds given this is the last year of this current contract. We have built our cluster membership by providing services that add value to our companies as a group, not by trying to track the progress of each individual company. With 100 members now tracking individual companies is not a practical approach in any case.

That said, we will endeavor to comply in what is written below.

Optics Cluster - Small Business Deliverables

End of Base Year & each option year: **Summary Narrative**

Cluster Deliverable	Information
<p><u>Written description of impact of actions taken:</u></p>	<p>Using experiential teaching models, we utilized customized workshops to provide a hands-on experience that taught the value of “coope-tition” (a guide to cooperate now to grow, and compete later), how to build relationships for business and mutual success, and to be bold in growth and opportunity pursuits.</p> <p>We are also training on alternative financing for cluster companies such as PPP, SBIR, STTR, SBA loans and venture financing.</p> <p>We provided business assessment tools to help identify company and management strengths and weaknesses. Then provided services to interested executives on how to utilize the results of these assessments to stabilize their ventures and drive growth.</p> <p>Given the disruption in supply chains, we provide cluster companies training and events on how to rationalize their supply chain. We are promoting more local, regional and national supply chain partnerships and are promoting new company creation to provide and deliver products and services locally.</p>
<p><u>Written description of impact of spending has upon small businesses in the cluster:</u></p>	<p>According to Entrepreneur Magazine 50% of small businesses fail within the first five years and 70% within their first 10 years. This was likely acerbated during the COVID-19 disruption.</p> <p>In brief, the impact of SBA RIC indirect spending has had a significant impact. We now have a functioning community of companies that know each other better, have built trust with each other, and are opening their eyes regarding their own growth. Additionally, these companies now have a sense of identity as Optics Valley that this, along with our conference and other marketing efforts, is attracting new business from inside and outside the state of Arizona. We have moved from a struggling technology cluster, that is vital to our national defense and more, stabilized it, and have set the stage for growth.</p>
<p><u>Measures:</u> <u>Benefits to the region because of cluster activities:</u></p>	<p>The cluster has moved from a “social club” to an industry cluster with a solid statewide identity, with awareness increasing across the nation and world. The cluster now has a foundation, networked relationships, and the beginnings of a new growth mindset.</p>

End of Base Year & each option year: **Summary report [and interpretation of measures]**

Cluster Deliverable	Information
Written description of the extent it provided services:	Please refer to pages 16 and 17 of the Annual Report above for the myriad of actions and services and infrastructure provided.
Written description of a clear link between spending and regional outcomes:	In 2019 we did not see interactions between and among companies unless there was a specific need. Today, the cluster is abuzz with action, conversations, what-if and opportunity discussions, and has a new relationship with Raytheon (a Fortune 17 company) who has a need for solutions in the optics and photonics arena.
Measures: Benefits to the region because of cluster activities:	Growth in company participation from 20 to 100 companies in 4 years.
Development and access to new markets:	Expansion of access to the defense market by coaching of SBIR efforts, facilitating network development with Raytheon.
Increases in patents applied for and obtained:	Baseline not created—foundational work required to obtain this information.
Licensing and commercialization of new technologies:	Baseline not created—foundational work required to obtain this information.
Creation of new products, new services, new business lines:	Baseline not created—foundational work required to obtain this information.
Development of new partnerships within the cluster region and beyond:	New Raytheon relationship with 16 optics and photonics companies. The next group being set for the coming year. Exposed opportunities to our cluster companies. Photonics West expansion and representation SPIE expansion and representation Connecting to the Mexico optics community.
Accelerated growth of small businesses:	Quantitative Baseline has not been established. However, the following quotes from cluster members show anecdotal evidence of success in engaging members, which leads inevitably to accelerated growth.



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“You got me to focus on asking why customers are engaging with my business rather than assuming I know. It has made a huge difference as to the way I approach my elevator speech and marketing.”

“I used to think that I can’t speak with competitors because they will rip off my ideas. Today, I know that my ideas are worth talking about because I can bring them to reality with my trade secrets which no one else knows.”

“You have given me the tools to keep my business from going under.”

“I started out with one employee and now I have three.”

“Before, I didn’t know what to do nor ask the right questions of my prospects, customers, and team. Now, I know.”

“I’m actually surprised I’m here. We are a small and growing business and then one day this ‘crazy man’ knocked on our door talking about this industry cluster and inviting us to participate. I am glad he did and I am glad we are here.”

“I came to this meeting with a bad attitude. I was expecting that this would be more of the same that we come to expect in Tucson. But wow did you change my mind. I’m all in. “

“I found out that I was the problem why my team is not performing. We now have the tools to communicate throughout the process and all the way to hitting objectives.”

“Selling has become easier since I’m focusing on developing relationships rather than pushing to sell all the time. People seem to be more relaxed around me.”

“My business has been focused on building to customer specs. It is too expensive, and my profit margins suffer with every project. Now I’m thinking how I can create a standard project or maybe create a HaaS model. The potential is endless.”



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	<p>“I’ve been focusing on features instead of the benefits I deliver.”</p> <p>“I can be more successful not doing everything myself. I can partner.”</p> <p>“Today, I pick up the phone and visit a prospect/customer to engage in discovery versus trying to accomplish the same using email and messaging.”</p> <p>“Optics Valley is the most vibrant committee of the Arizona Technology Council.”</p>
<p>Creation of new businesses:</p>	<p>Baseline not established.</p>
<p>Regional economic growth and increased job creation:</p>	<p>Baseline not established.</p> <p>Started relationship with AmeriCOM – the DoD’s funded consortium to support workforce training and supply chain stability with Arizona being selected as one of four national hubs.</p> <p>Working to create a pipeline from High Schools to Community Colleges to University, with off ramps from each depending upon what the student wishes to do in the tech cluster.</p>

Optics Cluster - Small Business Metrics

Cluster Metric	Information
Growth in number of small businesses participating in cluster partnerships:	No baseline exists
Growth in number of small businesses participating in cluster and support industries:	20 to 100 This growth in cluster participation is one of our proudest accomplishments. We provide value to our cluster companies.
Growth in number of small business starts in cluster:	No baseline exists
Growth in total capital flows (<i>all types</i>) to small business participants in the cluster:	No baseline exists
Growth in job creation of small businesses:	No baseline exists
Growth in: new products, new services, new business lines	No baseline exists
Number of small businesses receiving counseling, training, mentoring, or other technical assistance:	Estimated at 30 companies
Growth in creation of new businesses, employment or new business opportunities in emerging markets:	No baseline exists
Number of small businesses participating in other activities and services provided by the cluster (<i>e.g. events, matchmaking, showcases, etc.</i>):	We have nearly all of our 100 member companies participating in one or more of our Optics Valley events.
Number of patents obtained and /or applied for by small businesses in this cluster (<i>including new technologies licensed</i>):	No baseline exists

Appendix 2 - 2022 Objectives and Results

Activity focus: 80% toward new contracts, new hires, and business growth; 20% toward events and visibility, etc.

Help Existing Companies Scale Up and Grow

- Raytheon and Other A&D Companies
 - “Top Twenty” training completed
 - 16 companies completed
 - Leadership Group meeting monthly
 - On hold
 - Pursue and communicate with Raytheon to highlight success stories for company engagements
 - In Process
 - Discussions in process with two additional A&D contractors
 - Companies have been identified
- Optics Valley Membership
 - Five new Southern Arizona members
 - Completed
 - Ten new Maricopa County members
 - On hold
 - **Reached 100 members in 2022**
- Workforce Development
 - Three companies participating in PCC Optics Apprenticeship program
 - PCC has not started their apprenticeship program yet
 - Ten students enrolled in PCC optics classes in Fall 2022 semester
 - PCC has not started their apprenticeship program yet
 - Maricopa Community Colleges program designed for 2023 implementation
 - In Process
- Supply Chain
 - Establish an active machining manufacturing, including precision fabrication, subgroup that meets monthly
 - Include those companies in the Resource Directory
 - Define and establish a second subgroup
- Resource Directory
 - Complete transition to Optics Valley website
 - Completed



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- Forty company entries by EOY 2022 (Top Twenty, new members, supply chain, fabricators, and VSBA & ITAB)
 - Only 21 currently, needs continued focus in 2023

- Optics Valley Sustainability (documents and funding plan)
 - Start in Q3
 - Planning process started in Q32022. Needs continued focus in 2023.

Facilitate Formation and Development of Entrepreneurial Companies

- Build VSBA & ITAB program
 - 75% of Top Twenty companies take VSBA by EOY 2022
 - 10 companies completed VSBA
 - Ten additional companies take VSBA by EOY 2022
 - On Hold
 - Five optics cluster companies take ITAB by EOY 2022
 - Working to establish new direction in 2023
 - Half of the companies that take VSBA or ITAB build and implement improvement plan
 - Companies not yet forthcoming with this data
 - Based on cumulative assessment results, develop, and deliver two cluster education programs
 - On Hold

Enhance Visibility and Community Awareness Including Educational Initiatives

- Build annual events calendar to include Festival of Books, Laser Fun Day, International Day of Light, TENWEST, Tech Expo, SOCK relationship, Arizona Photonics Days, Photonics West, etc.
 - In Process
- Note - Need forward-thinking educational plan for STEM and CTE including SciTech Institute and Pima JTED
 - On Hold

Appendix 3 – Optics Valley Strategic Impact Plan



**Strategic Impact Plan
2021 – 2024**



Table of Contents

Introduction	3
Mission	3
Vision 2024	3
2021 Objectives	6



Optics Valley Strategic Impact Plan (2021 – 2024)

Introduction

In October 1992, the Arizona Optics Industry Association (AOIA) was formed as the first optics industry cluster in the world. At the end of December 2016, AOIA was dissolved as an independent organization, and its work continues as Optics Valley, a Committee of the Arizona Technology Council (AZTC). Today, Optics Valley is recognized as a world-renowned industry cluster representing the optics, photonics and astronomy communities in Arizona.

Mission (This is today and for the foreseeable future.)

The mission of Optics Valley is to catalyze, convene and connect optics, photonics, astronomy, and supporting business interests throughout Arizona.

Vision 2024 (This is what we strive to be at the end of 2023 when the SBA contract is complete.)

In 2024, with over 200 members throughout Arizona, Optics Valley is widely recognized as one of the leading global clusters for optics, photonics and astronomy. Our members have a strong sense of community and a culture of cooperation and collaboration to foster continued industry growth. We are undisputedly the most active Committee in the Arizona Technology Council (AZTC), and our members participate actively in other AZTC programs and benefits.

It is important to note that our members come from the broadest sense of the optics industry. We include not only companies with a direct focus on technology improvements, but we also embrace application and end user companies who implement these creative innovations. In addition, we actively solicit supply chain and other support organizations. Additionally, we have a wide variety of individual and student members.

We have quarterly business meetings in both Tucson and Phoenix. Member participation has matured to where there are active subgroups focused on specific end-user industries and opportunities, including medicine, aerospace and defense, and Quantum Information Science (QIS).



Ongoing support programs include the on-line Member Directory, the bi-weekly FOCUS newsletter, monthly networking and subgroup meetings, as well as Tech Series webinars, which are promoted and broadcast worldwide. In addition, our dynamic website is always current and filled with valuable information, including a company job board. Finally, Optics Valley sponsors an Other Transaction Opportunities (OTA) consortium to assist companies to respond to Federal opportunities including SBIR/STTR.

We maintain worldwide strategic collaborations and partnerships including membership in SPIE, OSA and IEEE. Annually, there is an Optics Valley “pavilion” in many key worldwide conferences and exhibitions. We continue to play a leadership role in the Global Photonics Alliance (GPA), a group of over 50 optics and photonics clusters. In addition, we maintain close relationships with UArizona, especially the Wyant College of Optical Sciences, as well as the Arizona Tech Parks.

Our flagship event continues to be Arizona Photonics Days (APD), held annually in Tucson, just prior to Photonics West. We attract over 250 attendees to this event where there is an active exchange of both company and technical information, as well as lots of networking time to build our worldwide collaborative relationships.

In order to support our industry growth, Optics Valley is heavily involved in workforce development. Our Advisory Committee has helped build optics training at Pima Community College (PCC) into a complete independent program that is a model for other similar programs. In addition, we serve as a hub for apprentice/internship programs for both university and high school students.

In order to develop the pipeline for tomorrow’s workforce, we are active in optics education in K-12 programs. We work closely with the AZTC SciTech Institute to promote the inclusion of optics curriculum in STEM programs throughout the state. We also work with Pima JTED and high schools throughout our region to expand the optics content to more locations in their programs.

Our members are active in the entrepreneurial community, many providing coaching and mentoring to fledgling companies in support of UArizona and community incubator and accelerator programs. There is a monthly informal get together to help young companies get to know each other. We have a focused sub-group within the Desert Angels to provide a vehicle for investment opportunities.

We are active in the community to enhance visibility and awareness of our important enabling industry. This is highlighted by the annual celebration of the International Day of Light on May 16th. In addition, we participate and sponsor



many events throughout the year in both Tucson and Phoenix. We have also produced informational videos for both the community and corporate attraction.

In the area of public policy, we cooperate with and support the National Photonics Initiative (NPI) and the Congressional Photonics Caucus. We have a close relationship with the Arizona Governor's Office, the Arizona Commerce Authority, and county/city administrations throughout the State of Arizona.

Finally, Optics Valley is financially and organizationally stable. We have an elected Advisory Board, made up of member volunteer leaders, which provides guidance and direction to our full time paid Executive Director, who is an employee of AZTC. He/she is supported by other AZTC employees who share joint duties. Optics Valley finances are provided by sponsorships and event fees as well as dedicated endowments.

Appendix 4 – Optics Valley References

In late 2021, we completed a major upgrade to the Optics Valley website:

<https://www.aztechcouncil.org/optics-valley-arizona/>

This has now led to significantly to increased usage of the site.

On addition, our one-minute video continues to be very popular:

<https://www.youtube.com/watch?v=NXiD1qPKTWw>

Appendix 5 – Program Support

Arizona Optics Initiative (AOI) Program Partners

Formal in Proposal

Key Contact(s)

- Arizona Technology Council Steve Zylstra, CEO; Karla Morales, VP
- Pima Community College Ian Roark, VP; Greg Wilson, Dean
- UArizona Tech Launch Doug Hockstad, AVP
- UArizona Tech Parks Carol Stewart, AVP; Eric Smith, Exec Dir

Informal

- Wyant College of Optical Sciences Tom Koch, Dean
- Arizona Commerce Authority Krista McGarvey, VP
- City of Tucson Barbra Coffee, Director Economic Initiatives
- Pima County John Moffatt, Exec Dir; P. Kavanaugh, Dir
- Startup Tucson Liz Pocock, CEO
- Pima JTED Kathy Prather, Superintendent
- And many more...

Strategy1 AOI Team

Focus/Expertise

- John Dennis Program Manager
- Mary Breeding Administration and Support
- Mark Jepperson Entrepreneurial Ecosystem/Building Change
- Peter Mantas Mentoring Entrepreneurial Companies
- Don Orton Growing Companies
- Jack Schumann Optics Industry
- Sonia Vohnout Federal Funding