APEX

ACADEMIC PARTNERSHIP ENGAGEMENT EXPERIMENT

IMPACT REPORT

DEPARTMENT OF THE AIR FORCE

Cultivating innovation
by expanding the American research enterprise
for the Department of the Air Force

1 October 2019 – 31 March 2021

Parallax
ADVANCED RESEARCH

APEX

ACADEMIC PARTNERSHIP ENGAGEMENT EXPERIMENT

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FROM THE CHIEF EXECUTIVE OFFICER

Dennis Andersh
Chief Executive Officer – Parallax

As noted in the United States Air Force (USAF)'s 2030 Science and Technology Strategy (AF 2030), "it is more important than ever for the USAF to renew its focus on scientific and technical talent" (p. 18). Deepening and expanding the scientific and technical enterprise is one of the three strategic objectives in AF 2030 and, as such, is a crucial implement for sustaining the Department of the Air Force's (DAF) technological superiority and enduring world-class capabilities to support our complex national security missions.

To address this need, in September 2019, the USAF established a new partnership intermediary agreement (PIA) with Parallax, a non-profit 501(c)(3) that has a major focus on connecting academia, industry and the government to enhance science and technology in support of the USAF mission.

The PIA was called the Academic Partnership and Engagement Experiment (APEX) and the focus was to deepen partnerships with academia and industry to better leverage knowledge, technology, and talent to benefit all partners. This Impact Report describes the framework, guiding principles, and actions that have had a positive impact on supporting the AF 2030 strategic objectives. The APEX PIA operates with the following core competencies:

IDENTIFY collaborators, innovators and technology opportunities using robust data analytics and active connection programs.

BUILD & CONNECT a nationwide network of innovators and technologists from universities, small businesses and the government.

DEVELOP & DEPLOY targeted education programs to train university and partnered small business innovators to effectively interface with the Department of Defense.

DRIVE INNOVATION through the creation of high-performance teams, innovative concept engineering events and Blue Sky workshops.

ACCELERATE & DIVERSIFY the technology transition pipeline through DoD challenge problems and novel and targeted small business and technology transition opportunities.

These core competencies are elaborated with distinct services that relate directly the APEX Statement of Objectives:

- Data Analytics
- National Engagement
- SBIR/STTR Process Navigation
- Creativity & Innovation
- Education & Training
- Organizational & Workforce Development
- Technology Transition
- Marketing & Communications

The dynamic environment noted in AF 2030 requires an agile, responsive, and capable workforce. Academic, industry, and government partnerships are a cornerstone for meeting that mission. APEX has been successful by forging collaborations that drive collective and value-added solutions to the complicated problems facing the DAF and DoD science and technology community. This Impact Report highlights the significant efforts of APEX through its teamwork and collaboration with ecosystem stakeholders to serve its clients. This Impact Report establishes a baseline of our current efforts and explains our capabilities to continue supporting the DAF and the nation's security for years to come. I welcome your comments on how APEX can have even greater impact in the future.

INTRODUCTION

This Impact Report covers Fiscal Year 2020 and the first two quarters of Fiscal Year 2021 for the Academic Partnership and Engagement Experiment (APEX) which was codified in the Partnership Intermediary Agreement (PIA) FB8650-19-3-9341 between Wright State Applied Research Corporation (now Parallax) and the United States Air Force (USAF). Aligned with overarching national security and science and technology (S&T) imperatives, this report frames the strategies that APEX has and will continue to employ to deliver, in an exceptional manner, the PIA's Statement of Work (SOW) tasks, objectives, activities, and experiments. In so doing, APEX's results-driven outcomes continue to elevate the critical S&T work needed to meet AF 2030 and National Defense Strategy mandates and how they will be achieved, performed, and sustained.

The accomplishments contained in this document are intended to illuminate and implement a wide array of interrelated initiatives that address current challenges as well as a clear future-focused orientation.

THE APEX MISSION

Connect universities, businesses, and the government; build collaborations between these sectors; identify their transformational operational defense solutions and capabilities; and advance defense technology development for the Department of the Air Force.

THE APEX VISION

Expand the Department of the Air Force's scientific presence, enhance access to top national and global talent, advance innovative workforce development, increase technology transition opportunities and create a robust pipeline of technology-proficient Airmen and Guardians.

CORE COMPETENCIES

IDENTIFY collaborators, innovators and technology opportunities using robust data analytics and active connection programs.

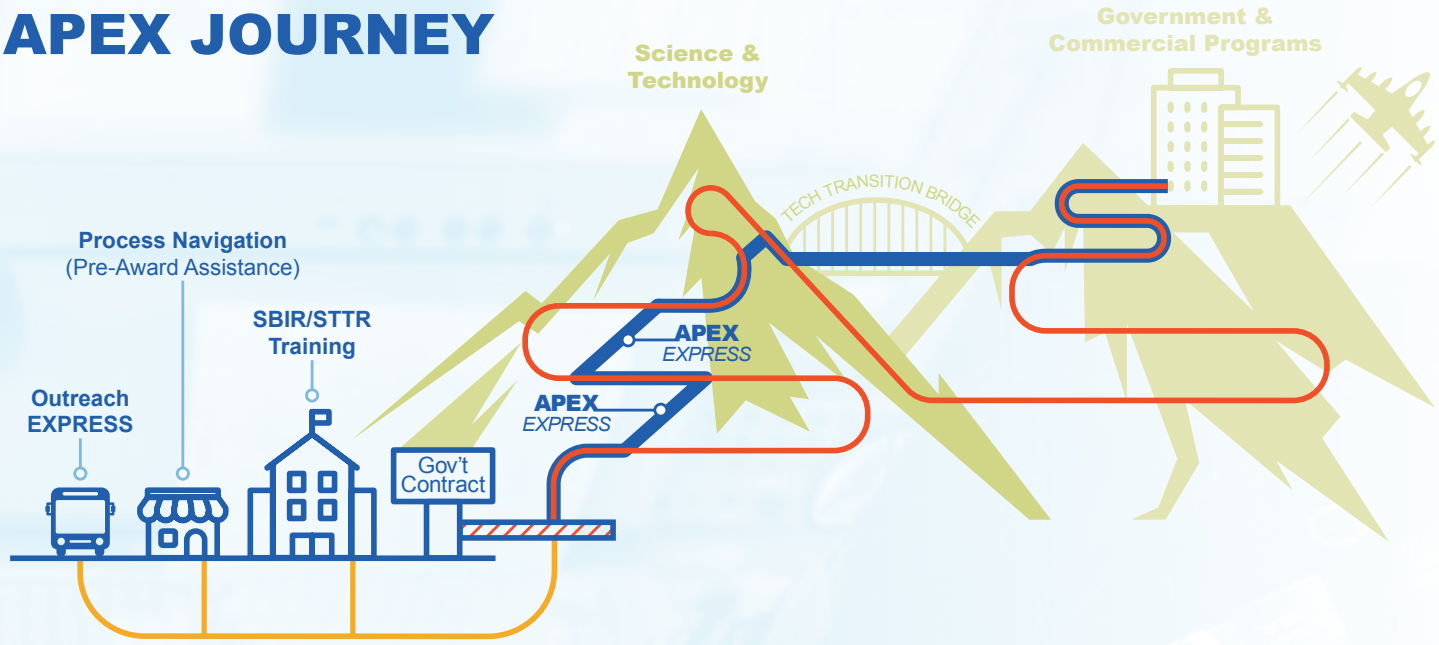
BUILD & CONNECT a nationwide network of innovators and technologists from universities, small businesses and the government.

DEVELOP & DEPLOY targeted education programs to train university and partnered small business innovators to effectively interface with the Department of Defense.

DRIVE INNOVATION through the creation of high-performance teams, innovative concept engineering events and Blue Sky workshops.

ACCELERATE & DIVERSIFY the technology transition pipeline through DoD challenge problems and novel and targeted small business and technology transition opportunities.

APEX JOURNEY



APEX is unique because it is focused on helping academia, industry and government connect in a more focused and efficient manner to speed science and technology to our ultimate customers, the warfighters. Along the journey others benefit as well. Academic researchers are afforded opportunities to commercialize their innovative ideas, small businesses are able to compete more effectively with traditional government suppliers, and the government benefits from finding the best science and technology wherever it can be found.

The journey with APEX begins with intelligence gathered through data analytics that inform where to look and who to communicate with to find what our clients want or need. The next step in the process is National Outreach to connect with the providers and invite them to the APEX family of services. Assistance begins with Process Navigation (Pre-award) and Education & Training where they are prepared to comply with government requirements and craft proposals that increase their chances of winning SBIR/STTR awards.

Once they receive a government contract, they are put on the "APEX Express" that provides more Process Navigation Services (Post-award) and they are also included in a growing family of partners that can be connected to government and prime contractors for Technology Transition opportunities where the initial journey is complete, but the relationship continues.

APEX BY THE NUMBERS

50 STATES REACHED

132 R1/R2 UNIVERSITIES ENGAGED

42 MSIs ENGAGED

613 SMALL BUSINESSES ENGAGED

184 UNIVERSITIES ENGAGED

52 NON-TRADITIONALS ENGAGED

1377 WEBINAR PARTICIPANTS

DATA POWERS APEX RESEARCH INTELLIGENCE

As a matrixed organization, APEX depends heavily on the Parallax data analytics capability. The data analytics team has built a corpus of knowledge and an analytics capability for the DAF that is unique and powerful. Parallax's APEX work in global innovation ecosystems strives to provide not just analyzed data but true research intelligence, encompassing activities ranging from AI-enabled multi-perspectival horizon scanning/landscape analysis to human capital forecasting and workforce analysis. Parallax has developed a productive service-oriented relationship with its customers, striving to provide rapid, high quality research intelligence. Our analytical products have been praised by senior leadership within AFRL Headquarters (HQ), Professional Employer Oranizations (PEO's) and technical directorates (TD's).

APEX analytics efforts leveraged machine learning, graph analytics, and scientometric analyses to:

- Drive 15x better engagement in collider/workshop events than industry average, as measured by click-through rates, scaled to yield tens of thousands of leads
- Provide the first and only profile of SBIR/STTR investments against Department of Defense modernization priorities
- Inform diversity and inclusion SBIR/STTR efforts praised by Brigadier General Pringle and requested by the National Academies of Science, Engineering, and Medicine
- Provide measurements of defense industrial spin-in rates of research investments
- Drive enterprise transformation through the personnel retirement wave via workforce analytics
- Increase engagement at scale between AFRL TDs and AFWERX, through matching algorithms
- Generate Phase 2 Customer Memorandum leads for Open Topic awardees.

APEX DATA ANALYTICS METRICS	TOTAL PROJECTS	CUSTOMER DIVERSITY	TASK COMPLEXITY
	80 projects	26 unique customers	Average of 2.75 ± 1.24 on a Likert (5-point scale)*
	50% return rate of DOD customers	22 DOD customers	103% increase in average complexity**
	43% of projects supporting AFRL/RG	3 PIA collaborations (Doolittle, BRICC, WBI)	
		100% of ARFL Technology Directorates served	

*over the lifetime of the contract. **first 6 mos. to last 6 mos.

EIGHTY COMPLETED PROJECTS

26 CUSTOMERS SERVED

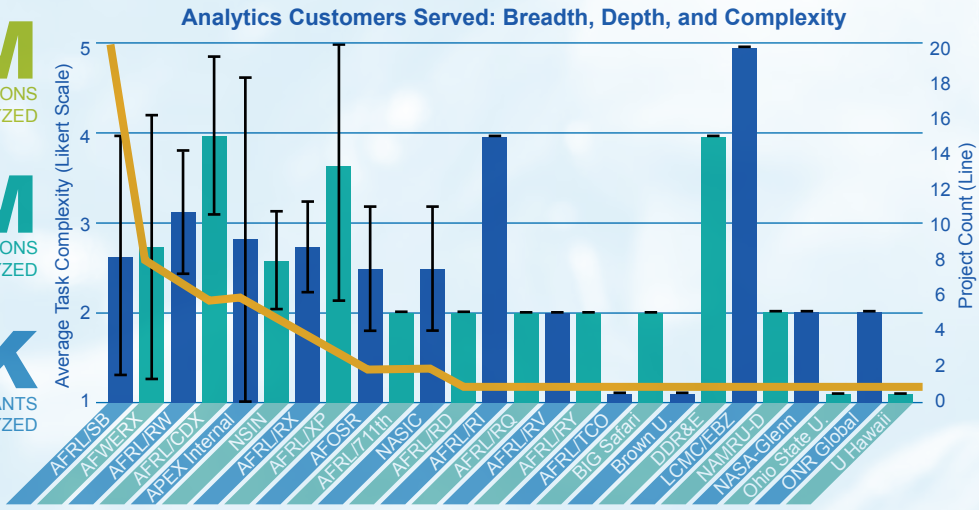
22 DOD CUSTOMERS

THREE PIA COLLABORATIONS

>17M RESEARCH PUBLICATIONS ANALYZED

>1.5M PATENTS & APPLICATIONS ANALYZED

>150K CONTRACTS & GRANTS ANALYZED



>1M RESEARCHERS ANALYZED

>18K BUSINESS & RESEARCH INSTITUTIONS ANALYZED

>100K POINTS OF CONTACT LEADS GENERATED

100% AFRL TD'S SERVED

50 PERCENT RETURNING DOD CUSTOMERS

43% PROJECTS SUPPORTING RG

APEX workhorse data corpus is a co-authorship and citation graph of >350M US and international journal articles, patents, conference proceedings, pre-prints, Defense Techincal Information Center (DTIC) reports, and National Academies Proceedings in more than 17 languages, to which >1M items are added monthly. We add 2.6M Securities and Exchange Commission (SEC) filings; business, market, and collaboration information on more than 637K startup businesses (>100K updates monthly); 4K Venture Capital (VC) firm funding flows; all federal procurement and award data; >190M DoD supply chain components' technical, pricing, supplier, and availability data from >70 DoD databases, including the end system or roll-up subsystem of each component. APEX also possesses significant data on human capital and workforce development with statistical data on US Research and Development (R&D), Science and Engineering (S&E) workforce, US S&E/R&D competitiveness, research facilities, US Voter Registration data (as a proxy for citizenship), and Science, Technology, Engineering and Mathematics (STEM) education from 1958-Present.

NATIONAL ENGAGEMENT

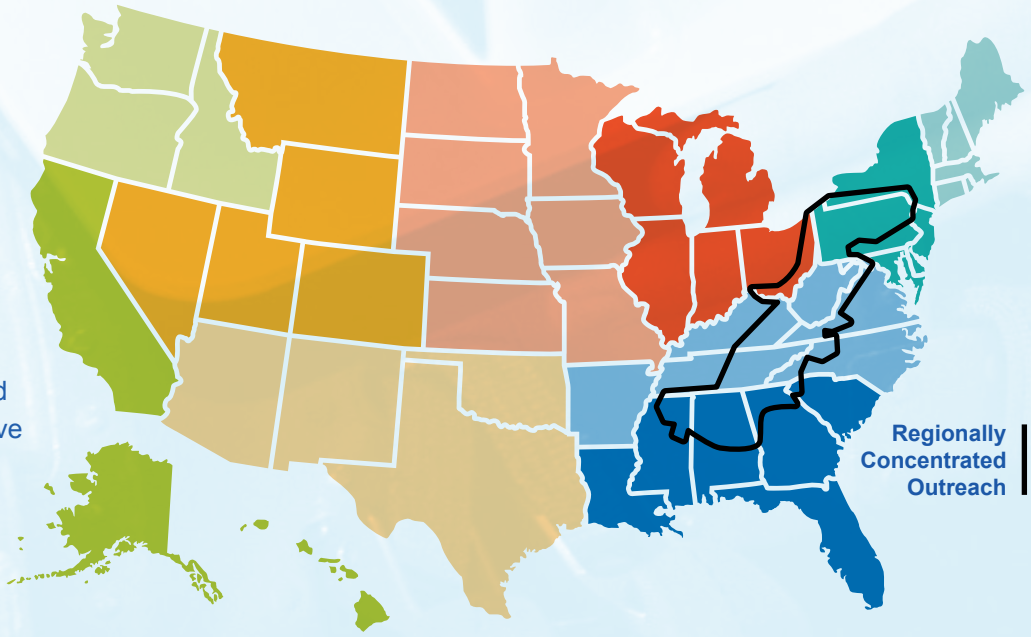
APEX National Engagement opens the aperture to a broader set of academic, industry, and government partnerships to create a robust pipeline of innovators with dual-use technology for the military and commercial sectors.

Engagement efforts to academia began with R1/R2 universities but quickly expanded to include MSIs, small liberal arts colleges, and community colleges. APEX's success so far encompasses positive engagement from 184 universities, which includes 132 R1/R2 universities and 42 Minority-Serving Institutions (MSIs). APEX has been able to connect with thousands of researchers and who had not previously conducted business with the government. We used robust data analytics to identify collaborators, innovators and technology opportunities and then built a nationwide network of innovators and technologists from universities, small businesses, and the government to turn those technology opportunities into military capabilities. To assist in engagement efforts, we developed two different webinar options. Foundational webinars are frequently used as a tool to introduce the basics of DAF's SBIR/STTR proposal process, while Regional webinars are styled in more of a meet-and-greet style that allows future DAF entrepreneurs the chance to meet potential collaborators while learning about all the resources at their disposal. When connecting with universities, we employ a three-pronged approach that includes the office of the Vice Presidents of Research, Technology Transfer/ Commercialization offices and Principal Investigators. We also work closely with regional Small Business Development Centers (SBDCs) and Economic Development Organizations (EDOs).

For National Engagement purposes, the country has been divided into ten regions and two new regions shift to the primary focus at the pre-release of every solicitation. Our efforts to scale nationally were actually enhanced by the pandemic, with more focus on virtual engagement. The results, although far reaching, still leave room for a deeper dive into all regions to populate our knowledge base with contacts in more university and business technology development ecosystems. We are excited about continuing to expand the innovation ecosystem for the DAF because getting the right technology in the hands of the right airmen must be prioritized as the U.S. aims to maintain its competitive advantage.

"That's what APEX is here to do, help people like me and companies like mine: who have no connection into the DoD, through the process."

KYLE GILLIS
Co-Founder of IconicAir



Connecting Universities, Small Businesses & Government

Universities Positively Engaged by Region

- New England 6%
- Mid-Atlantic..... 15%
- Mid-South 13%
- Deep South..... 14%
- Midwest Great Lakes..... 19%
- Midwest Prairies 9%
- Mountain..... 6%
- Southwest..... 10%
- Pacific..... 6%
- Pacific Northwest..... 2%

APEX supports USAF Small Business Office (SBO) efforts to improve Air Force engagement and inclusion of Historically Black Colleges and Universities (HBCUs), and Socially and Economically Disadvantaged Small Businesses (SEDBs). As a force multiplier for the AFRL/SBO, APEX is proud to tailor an outreach program to HBCUs on its quest to bring the most innovative researchers and technologists into the fold of the Department of the Air Force's (DAF) ecosystem. To date, we have engaged with 22 HBCU's and highlighted successes with SBIR/STTR. In the time since APEX's inception, we have provided data on HBCU/MSI spin-out firms, research profiles, research and application domain density estimates, relative matriculation rates of SEDB firms by SBIR/STTR issuing agencies, and targeted leads and contact generation. One example recently completed was an AI-driven, lead-generating product for an AFRL/RW HBCU hypersonics funding opportunity which produced more than 800 points of contact for relevant faculty, chancellors of research, and university presidents at HBCU's whose research portfolio was most aligned with the six technical topic areas. AFRL provided APEX's collection of HBCU and SEDB analyses to the National Academies of Science, Engineering, and Medicine for inclusion in a report on the current state of DoD-funded research at HBCUs and other Minority Serving Institutions.

"APEX develops and utilizes analytics to identify academic and business partners, and map technology areas of interest to the USAF. These efforts are key to connecting an under-served community of Universities and Small Business partners with Air Force resources."

ANISSA LUMPKIN
Lead Program Manager,
U.S. Air Force Small Business Innovation Research (SBIR)/ Small Business Technology Transfer (STTR)

SBIR/STTR PROCESS NAVIGATION

While engaging all the other functions of APEX, our novel approach to deepening and expanding the science and technology enterprise in support of the war fighting capability of the Department of the Air Force (DAF) continues to be highly effective. Building on the outreach and connections made regionally and nationally, and supported by the asynchronous training curriculum deployed on the Parallax Learning Hub Massive Open Online Courses (MOOC), APEX has been highly successful with Process Navigation support to entrepreneurs and researchers and Technology Transition activities that pull technology through the Valley of Death by providing an "express lane" built with business intelligence and personal engagement.

APEX's Process Navigation team guided many entrepreneurs and researchers through the DAF SBIR/STTR proposal process. During each round, solicitation-specific cohorts were formed to offer organizations experienced insight and feedback on proposal strategies and approach. Each organization that entered the cohort was given access to one-on-one consulting and was invited to several one-to-many briefings that focused on proposal pain points, such as the structure of the Air Force and the vernacular of the system, communicating the commercialization strategy and potential, building effective pitch decks, cost volume preparation, navigating the Defense SBIR/STTR Innovation Internal Portal (DSIP) and more. Once a proposal was awarded, the APEX team continued to work with these organizations by forming post-award cohorts that were intended to assist in making connections, strategizing approaches, and developing responsive Phase 2 proposal submissions. The Process Navigation team also developed a highly effective and very well received matchmaking service to help organizations find a required partner for an STTR proposal or a sub to fill a gap that would complete an SBIR proposal. Organizations who wanted to offer their services as a potential partner or subcontractor could also participate in the matchmaking service. All these services are available upon solicitation pre-release and were provided free of charge.

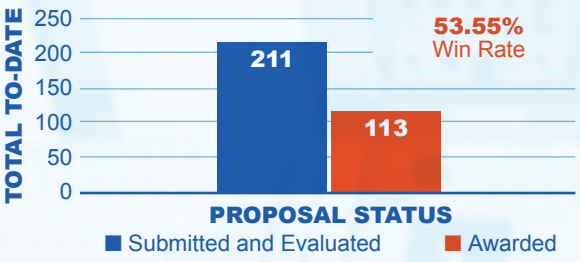


Figure 1. Total APEX-Assisted Proposals

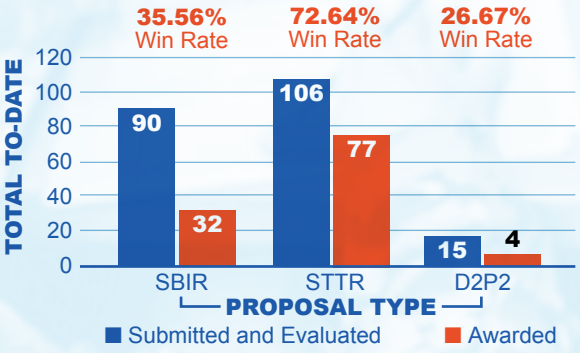


Figure 2. APEX Assisted Proposals by Type

"We're really good at what we do, but we were very bad at navigating this process, so APEX walked us through it. Without APEX's help, we wouldn't be where we are today – with a $150,000 award to apply our technology in the defense market."

JUSTINE BLANK / Co-Founder & Vice President of Engineering Products of Ohio LLC (EPI)

The implementation of these services allowed for much greater support each solicitation round. To measure the value of our services, each APEX-assisted submitted proposal was tracked and the status of each award was recorded. To date, 239 small businesses were serviced, 158 of which moved forward to submit 239 proposals with APEX Process Navigation assistance. Of the 239 proposals submitted, 211 have completed review and 113 were awarded yielding a 54% win rate so far as shown in **Figure 1**. To further break this down, the total number of SBIR, STTR, and Direct to Phase 2 (D2P2) evaluated submissions and awards can be found in **Figure 2** along with their respective win rates.

The Team Matchmaking function offered by the APEX Process Navigation service has helped create winning teams out of researchers and companies across the country that would have never met each other. The number of introductions facilitated between industry, academia, and government for USAF SBIR/STTR teaming purposes was also tracked. The graph in **Figure 3** shows the drastic growth in aggregate introductions made to date of 319 that began during the X20.D Agility Prime round when the Team Matchmaking service was implemented. The following sudden spikes in the graph represent the number of connections created during an active solicitation when the matchmaking service was in full-force.

"I think the subject of my email was "Urgent! Help Needed" and APEX successfully delivered that help. There are so many unknowns in that last phase of the process… that expert guidance at critical hours… the quality and success of our proposal may not have been there if we had ventured on our own. It was APEX that helped NecoTech see how our innovation fits in the military and DoD industry."

STEVE FLAHERTY
CEO of necoTech

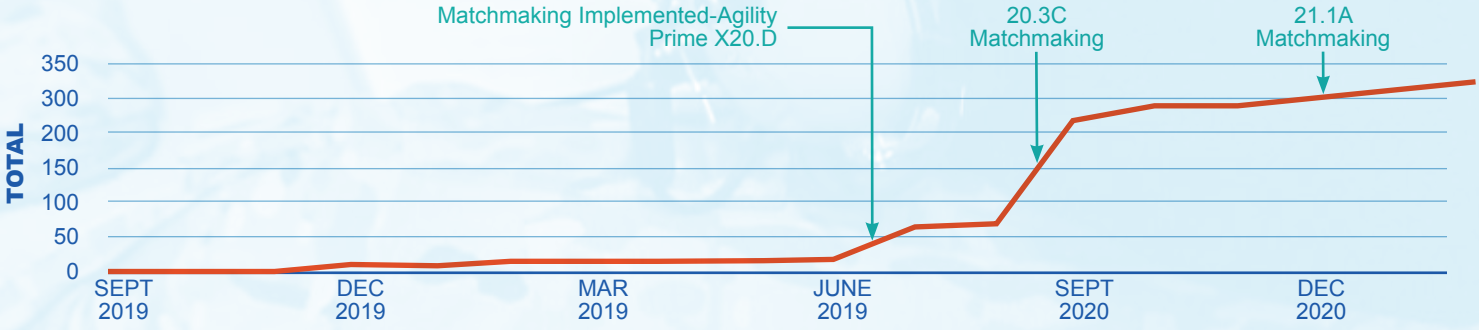


Figure 3. Cumulative Team Matchmaking Introductions

CREATIVITY & INNOVATION

In April 2020, APEX formalized a relationship with Idea Connection Systems, Inc. (ICS) under a Basic Ordering Agreement to provide workforce development services using their human dynamics of innovation expertise and Innovation Strengths Preference Indicator® (ISPI™) instrument. In June 2020, the APEX/ICS team engaged four ARFL Directorates in AFRL (711 HPW, RX, RD, RW) to provide services related to workforce development, leadership development, and high performing team formation using workshops, consulting, and the ISPI instrument. The goal of the engagement was to provide the Directorate leadership teams information and insights on the innovation preferences of their teams so they could be more effective pursuing technology goals. Including this as our initial engagement, the Creativity and Innovation team has accomplished the following:

- Over 520 ISPIs administered
- Nearly 200 AFRL employees engaged in innovation workshops
- Junior Force Focus Groups conducted, and themes reported to AFRL leadership
- Directed Energy Futures ideation workshops planned with AFRL RD using Action Learning construct
- Space Futures workshop planned with United States Space Force
- Emerging technology workshops proposed to support of the DAF Chief Scientist

OVER 520 ISPIs ADMINISTERED

EMERGING TECHNOLOGY WORKSHOPS

JUNIOR FORCE FOCUS GROUPS CONDUCTED AND THEMES REPORTED TO AFRL LEADERSHIP

C&I directed ENERGY FUTURES IDEATION WORKSHOPS

NEARLY 200 ARFL EMPLOYEES ENGAGED in innovation workshops

SPACE FUTURES WORKSHOP PLANNED with the UNITED STATES SPACE FORCE

EDUCATION & TRAINING

The corpus of the educate service in APEX began with a vision to produce a Massive Open Online Course (MOOC) framework that was codified in the PIA. The MOOC launched in February 2021 and resides in the Parallax Learning Hub (PLH). It is comprised of a suite of 24 introductory topical videos to acclimate small businesses and universities on the DoD/DAF SBIR/STTR program's foundations that orient learners on how to get to Phase 1 (aka Level 1 training).

In addition to the introductory MOOC, the overall SBIR/ STTR curriculum being planned will provide instructional guidance for SBIR/STTR partners to get to the point of commercialization (i.e., Phase 3 and beyond). Incremental roll-outs of the additional SBIR/ STTR training will include Level 2 (Phase 1 through Phase 2) and Level 3 (Phase 3 and beyond). This training series is designed not only to inform and educate participants in the process but also, when completed, they will be equipped to mentor others who are new to the process. Our plan is to have the Level 2 and Level 3 training available by Fall 2021.

Stats as of 31 March 2021 (one month after launch)

EDUCATION & TRAINING METRICS	TOTAL TO DATE
Number of Training Events Conducted	45
Number of Companies/ Academic Institutions Trained	961 Companies 119 Institutions
Number of Training Modules Produced	57
Number of Courses Developed	24

2021 (through 31 March) metrics (cumulative since inception)

TOPIC	ACHIEVEMENTS	IMPACTS
SBIR/STTR	Launched MOOC and delivered suite of 24 training videos along with a preview video. Ideated on additional batches of training to be launched later in 2021. Launched series of videos focusing on pitch days (aka Ryan Hellbach videos).	Provided an unprecedented curriculum to small business, academic, and government partners on the SBIR/STTR fundamentals. Paved way for delivering intermediate and advanced training on the DAF SBIR/STTR program. Hellbach videos provided new insights into pitch days, an event central to the SBIR/STTR process.
EDUCATIONAL TECHNOLOGIES	In November 2020, APEX and its parent company, Parallax, purchased a Learning Content Management System, called Parallax Learning Hub (PLH).	PLH will enable APEX to design, test, conduct formative evaluations, and enlist DAF customer feedback and endorsement of current and future APEX-generated learning solutions for the DAF.
T3 SUPPORT	APEX designed a framework for producing a suite of 10 videos intended to provide exposure to the AFRL/T3 office's mission and capabilities. AFRL/T3 approved the transcripts for all 10 videos. All videos are on target to be completed on time or ahead of schedule.	The completed videos will provide, in a contemporary and visually appealing manner, information about the dynamically diverse T3 mission. In turn, these videos will provide clarity on that mission and should draw customers to engage with the T3 office.

ORGANIZATION & WORKFORCE DEVELOPMENT

At a deeper level, APEX has engaged our primary client, AFRL and others in the DAF, to deliver consulting services on human capital and workforce development topics in support of DAF talent priorities. Managing the government workforce with DAF technology and capability priorities in mind is key to staying competitive in the rapidly changing science and technology ecosystems. A synopsis of the organization and workforce development achievements and their impact is provided in the table below:

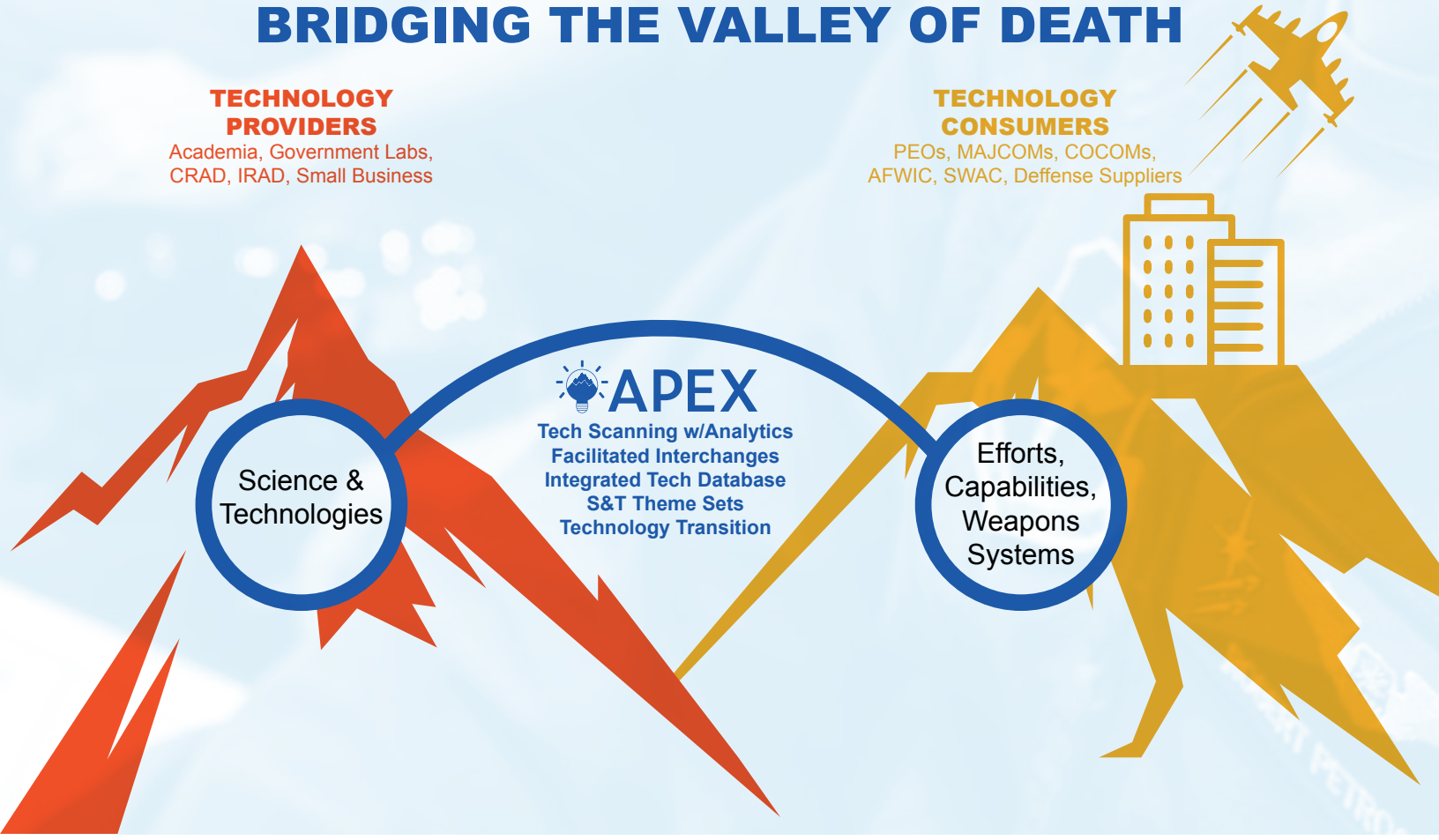
TOPIC	ACHIEVEMENTS	IMPACTS
HUMAN CAPITAL	In 2020, APEX showcased its Human Capital expertise and capabilities to the AFRL Chief Human Capital Strategies and the AFRL Chief Learning Officer. This led to the award of three sub-tasks to date, the latest of which was a 2-year project description (PD) through March 2023. APEX co-led a strategic off-site with AFRL/FM's leadership team and facilitated reflection and learning workshops with the Change Priority Action Learning teams. Also, consulting services were provided on a wide array of topics. APEX presented a career path and workforce development framework which was adopted formally into the 2-year PD.	APEX provides crucial resource augmentation and desired capabilities in support of AFRL's HC strategies and learning priorities. This long-term relationship will promote AFRL's achieving its robust HC and learning agendas. Achievements to date provided valuable insights for FM leadership participants (as evidenced in a post-event survey).
MICROELECTRONICS	Envisioned a strategic forum that would, for the first time, gather experts from across government, industry, and academia to discuss and shape the future roadmap of microelectronics, with a focus on workforce development and preparing future generations of talent. APEX launched an ecosystem of members from all segments and expanded that ecosystem membership from 6 to 25.	This vision is directly aligned with FY2021 NDAA provisions (§9901 et seq) and a Presidential executive order targeting closure of skills and talent gaps. With AFRL/RYD endorsement, APEX has spearheaded expanded focus on microelectronics and has enlisted dozens of change ambassadors to lead future dedicated efforts.
PERSONNEL EXCHANGES	Fulfilling another key provision in the PIA, APEX developed a template for personnel exchanges. These exchanges will fuel talent mobility and matchmaking across government, industry, and academia.	When completed later in 2021, personnel exchange agreements will facilitate exchanges and capitalize on existing venues (e.g., CRADAs, EPAs, PLAs) to expedite talent mobility arrangements.

TECHNOLOGY TRANSITION

Our Technology Transition team has been casting a wide net to get the right technologies into the hands of government and defense industry program managers who need it. To that end, they have accomplished the following:

- Briefed over 20 senior Air Force leaders on the tech transition concept to enable rapid, accurate matches of technology in development with technology needs.
- Engaged with Program Executive Officers (PEOs) to understand their needs and better communicate those needs to academia and small businesses. To date, the Technology Transition team has engaged with the following PEOs: Weapons, Fighters and Advanced Aircraft, ISR &SOF, C3I & Networks, Bombers, Mobility & Trainers, and Agile Combat Support.
- Engaged with four major Air Force prime contractors to understand technical gaps and design solutions to meet their unique needs.
- Engaged with SBIR/STTR performers on how to gain PEOs endorsements, how to commercialize technology, and how to understand the Department of the Air Force.
- Facilitated the engagement of PEOs with small businesses including support for a SBIR Phase 2 pitch day with PEO Weapons and a webinar with PEO Mobility and Trainers to facilitate interactions with STTR performers.

BRIDGING THE VALLEY OF DEATH



COMMUNICATING SUCCESS

APEX MarComs' main mission is to publicize and promote the successes of the DAF. APEX does this by targeting three audience types that the DAF also targets: academia, industry, and government. APEX's current marketing mix includes email marketing, e-newsletters, paid and organic LinkedIn marketing, digital marketing (search engine optimization), content marketing (blog, success stories, articles) and media relations (op-eds, press releases, and feature articles). APEX MarComs also leverages the larger DAF ecosystem, including PIAs, AFRL Public Affairs, AFOSR, AFWERX and Agility Prime, to cross promote DAF ecosystem initiatives. APEX MarComs also leverages the APEX Data Analytics service to generate targeted email contact lists. These lists are then leveraged in promotions of DAF events, programs and success stories via email campaign and e-newsletters.

KEY IMPACT AND GROWTH METRICS FROM MARCH 2020 – 2021:

- Publicized & promoted 41 DAF success stories on LinkedIn, in email newsletters and email marketing campaigns which increased awareness of the DAF, its successes and how its collaboration with academia, industry and other government advances the DAF warfighter.
- Designed and built the APEX website; launched in March 2020. The APEX website features an event page that promotes DAF events. The APEX news page promotes APEX news and client success stories on their journey through the USAF SBIR/STTR program.
- Averaged 9% total monthly email marketing click through rate across all campaigns that promoted the DAF, its ecosystem, events, and success stories.
- Co-Hosted 37 virtual events on the APEX program and its services that support the DAF and USAF SBIR/STTR program. These events improved brand awareness of the DAF and highlighted DAF success stories as well as marketed APEX services that support the USAF SBIR/STTR program. Highlight events include the APEX MOOC Collider, AFWERX INSPIRE, Tech Warrior Enterprise Tactical Ops Event, Advanced Air Mobility Collider 2021 featuring AFWERX and Agility Prime, and the APEX-Wright Brothers Institute Webinar 2020.
- Promoted 60 DAF ecosystem events. Highlight events include the USAF SBIR/STTR HBCU initiative, the Annual Air Force Association Symposium, Agility Prime Team Up, AFWERX Accelerate, AFWERX Fusion, AFOSR University Partnership Collider, AFRL Small Business Office Ask Me Anything series, Wright Brothers Institute Impact Week, Black Data Processors Association National 2020.
- Established relationships with USAF and DAF PIAs, AFRL Public Affairs, supporting contractors, independent organizations, businesses, universities, and government POCs. These contacts cross promoted DAF events that improved brand awareness and potential DAF partner and client leads.

AIR FORCE TECH CONNECT/ SPACE FORCE TECH CONNECT

AIR FORCE TECH CONNECT

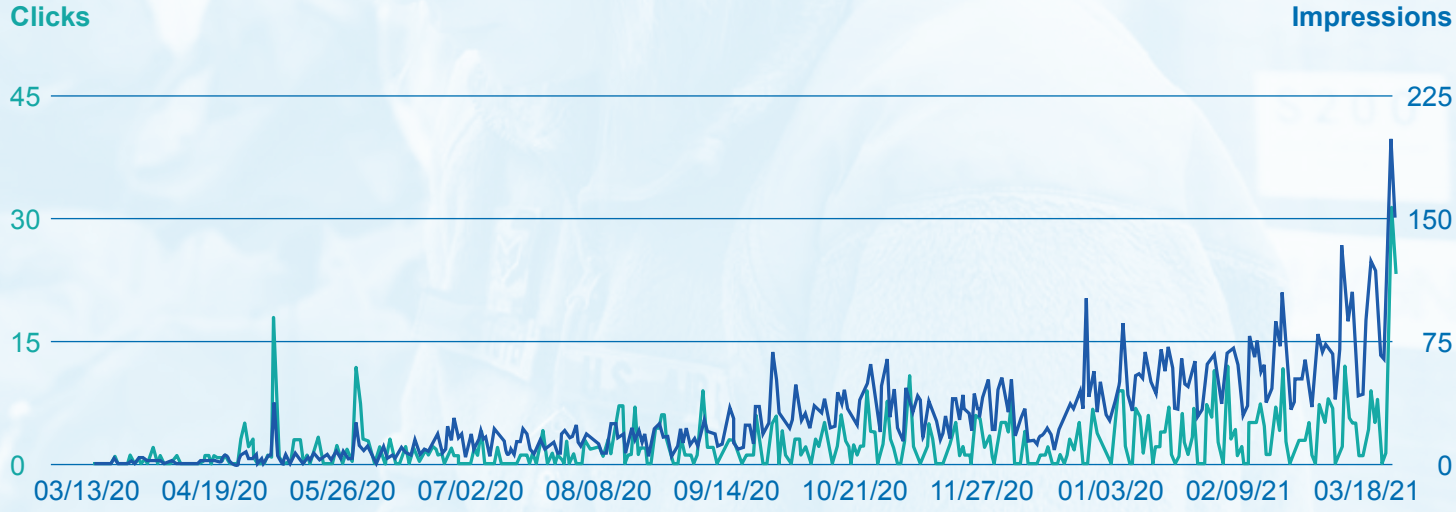
SPACE FORCE TECH CONNECT

APEX MarComs supports the development of the novel Air Force Tech Connect/Space Force Tech Connect website. The project began in January 2020 when the Air Force Research Laboratory engaged with APEX to create a virtual "front door" to connect academic researchers, businesses, entrepreneurs, innovators and government personnel with the DAF science and technology enterprise. The idea of a "front door" resulted from non-government technology developers finding it increasingly difficult to navigate the DAF innovation ecosystem. The solution was to create the Air Force Tech Connect & Space Force Tech Connect website which provides academic, industry and government innovators a "front door" point of entry that has simplified the connection process in the form of a user-friendly idea submission form through which users can submit their ideas for DAF review and rapid follow up as well as features an organized feed promoting ecosystem events, resources, and websites. Ultimately, the "front door" promotes the creation of DAF-industry-academic-government partnerships and collaborative innovation opportunities to advance the warfighter. The Air Force Tech Connect/Space Force Tech Connect was launched live in March 2020, and APEX continues to support the development of the site and its promotion in email blasts, e-newsletters, on LinkedIn and at virtual events.

KEY IMPACT AND GROWTH METRICS FROM MARCH 2020 – 2021:

- 113 to 1,827 monthly visits
- 1,144 to 5,633 monthly page views
- 4.3% to 33.3% monthly organic traffic
- 8.7% to 14.9% monthly referral traffic

Improvement of total website clicks and impressions since being launched (March 2020 – March 2021)



OUR EXTENDED TEAM

The APEX collaborator network is comprised of many government, academic and industry entities who work together on science and technology development and commercialization of interest to the Department of the Air Force. Our collaboration with these networks and ecosystems allows us to offer our clients integrated solutions that combine the right expertise and technology for their needs.

As a subset of our larger collaborator network, APEX has an extended team that help us do what we do daily. These extended team members are key to our success.

DATA ANALYTICS

NATIONAL ENGAGEMENT

SBIR/STTR PROCESS NAVIGATION

CREATIVITY & INNOVATION

EDUCATION & TRAINING

ORGANIZATIONAL & WORKFORCE DEVELOPMENT

TECHNOLOGY TRANSITION

MARKETING & COMMUNICATIONS

The Ohio State University

Entrepreneurs' Center

BRITE Energy Innovators

IDEA Connection Systems
Making the Invisible Visible

Wright State University

the new media incubator

Ohio Aerospace Institute

WNG Consultants, Inc

Dayton Aerospace

IN CONCLUSION

Mary Margaret Evans
Executive Director
APEX

Thank you for investing your valuable time reading through the APEX Impact Report. I hope you found it useful in understanding the APEX vision, mission, organization, and our accomplishments since our inception.

We plan to continue supporting the broader Department of the Air Force and the national security missions they are given with a diverse array of stakeholders across many disciplines. The priorities codified in the AF 2030 and National Defense Strategy necessitate that APEX be optimally positioned and responsive to the needs of all stakeholders, both in the Department of Air Force and those in academia and industry that help them accomplish their missions. APEX must perform its important work and effectively respond to any challenge.

With our talented and dedicated workforce, we are confident that we will do just that.

APEX

ACADEMIC PARTNERSHIP ENGAGEMENT EXPERIMENT

Parallax
ADVANCED RESEARCH

Parallax Advanced Research
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