



Catalyst Campus for Technology and Innovation Colorado Springs Catalyst Accelerator Program Analysis

Prepared for
Catalyst Campus for Technology and Innovation
KiMar Gartman, Shae Thomas, Allison Boothe and Relevant Parties
Colorado Springs, Colorado

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Cover Letter

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29 November 2023

KiMar Gartman
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Dear KiMar,

As a group co-lead for this project, I would like to extend my deepest gratitude for yourself, Shae, and Allison while collaborating with us on this report. On behalf of my team, this project has allowed us to witness large-scale innovation outside of UCCS while simultaneously forming connections with business owners and government leaders that would not have been possible without the Catalyst Accelerator. The unwavering trust that you have put into my team to analyze your company's data, has given me the opportunity to practice foundations of my education in a situation where the final outcome has the potential to make an impact on the Catalyst Accelerator and businesses participating in the program. I was honored to attend the Artificial Intelligence and Machine Learning Accelerator and see first hand the impact that the program has on startup businesses. Each presenter held a breadth of knowledge and it was an honor to listen to their presentations. I hope that the formal analysis report my team has completed for you will be of benefit for your program and motivate you to keep providing excellent programming in the future.

This report will encompass all findings derived from post-Accelerator data and an Accelerator alumni survey conducted by my team. The report will include background on the Bachelor of Innovation program at UCCS, an executive summary, scope and limitations, background, methods, results, recommendations, and conclusions. The appendix of this report offers an array of documents from our scope of work, raw survey data, graphs and charts, and resumes for the team leads, Marcus and myself, graduating spring of 2024.

Best regards,
Meghan Germain

Bachelor of Innovation

The Bachelor of Innovation (BI) program at the University of Colorado Colorado Springs (UCCS) is a fully accredited educational program that addresses the needs of innovative thinkers. The BI program is an alternative to the traditional Bachelor of Arts (BA) and Bachelor of Science (BS) program that is unlike any other program in the country. The program uniquely combines traditional coursework in Business Administration, Communication, Game Design, Computer Security and Data Analytics with a comprehensive curriculum emphasizing Entrepreneurship, Innovation, and cross-core learning. Throughout each program, innovation is at the center of the coursework as students learn to transform ideas into impact.

One of the notable parts of the BI program is the mandatory three-semester commitment to team-based consulting work, referred to as the Innovation Team courses. Throughout the courses, students work in cross-disciplinary, multi-functional teams while collaborating with external clients, engaging in projects brought forth by the clients to improve an aspect of their business. The BI program provides students with the opportunity to confront dynamic, real-world challenges, while simultaneously providing local and international organizations the opportunity to engage with students within a university setting, resulting in a mutually enriching and innovative exchange.

Students enter the Innovation Team courses by enrolling in *Innovation Team: Analyze and Report*, which is the first of the three innovation courses, where student experience working for clients and with other team members, and learn how to communicate and begin to be an innovator. The next class is *Innovation Team: research and execute*, where students have more responsibilities on the team and start developing leadership skills and harnessing innovation. Finally, as a Senior, students take on *Innovation Team: Design and Lead*, where students are the leaders of a team and are able to teach and further develop their communication, leadership, teambuilding and, more importantly, innovation skills.

During the Fall 2023 semester, Catalyst Campus for Technology and Innovation (CCTI) collaborated with the BI program to analyze exit survey data from the 12 Colorado Springs Accelerators looking for relevant trends to benefit future programs. The innovation team collaborating with CCTI is led by Meghan Germain, Digital Media Communications and Pre-Medicine Major, and Marcus Manuel, Cyber Security Major. Team members include Cannon Hritz, Information Systems Major, and Jerrod Dalupan, Business Management Major, in addition to Alan Sanchez, Cyber Security Major, and Jay Polakam, Data Analytics Major. Members of the team have backgrounds in data analysis and computer science which are useful tools for the scope of the project. Our team met with KiMar Gartman, Catalyst Accelerator Program Director, and her team to define a scope of work. Additionally we met regularly with the client to discuss progress, test assumptions, and solve difficulties discovered throughout the project.

The Innovation Team courses within the BI program equips students to work in diverse environments and provides the tools that are necessary to navigate dynamic situations.

Executive Summary

The UCCS Bachelor of Innovation team collaborated with the Catalyst Accelerator team at Catalyst Campus for Technology and Innovation to analyze data from post-Accelerator surveys from all Accelerators in Colorado Springs over the last five years. The primary objective of the project was to identify trends in the Accelerator program, as well as best practices, lessons learned, and recommendations for future programming. The deliverables for the project included a formal analysis report as well as a five-year-review presentation at Catalyst Campus.

During the course of the analysis, the UCCS team was able to meet all goals and objectives included in the scope of work with the addition of surveying an alumni company from each cohort except the Artificial Intelligence and Machine Learning cohort. All data explored in this report derives from post-Accelerator surveys and Economic Impact data provided by the Catalyst Accelerator team and the Accelerator alumni survey results collected by the UCCS team. This study considers survey information from 12 Colorado Springs cohorts. In brief, the following key metrics are highlighted to encapsulate the content of this report:

- 92 alumni companies surveyed across 12 cohorts in the post-Accelerator survey.
- 6 alumni companies surveyed by the UCCS team.
- 74 companies included in the Economic Impact data – 10 Colorado Springs cohorts.
- Strategic business partnership development was the top driver for program participation.
- Access to new government customers was the most useful service.
- Access to legal advice was the least useful service.
- The performance of the Accelerator team and the one-on-one consulting provided by Mo were consistently ranked the highest throughout all five years of the Catalyst Accelerator.
- 13.5 hours spent each non-resident week on tasks related to the Catalyst Accelerator.
- Companies conducted an average of 52 customer discovery interviews.
- 50% of participants agree or strongly agree that the grant funding played a significant role in applying and participating in the Accelerator.
- 73.34% of the respondents found the Air Force Sherpas to be useful.
- 65.79% of the respondents found the Commercial Sherpas to be useful.
- \$479 million in funds attributable to Accelerator involvement.
- Data Fusion secured the most funds attributable to Accelerator involvement at \$120 million in total.
- \$135 million in private capital secured by post-revenue companies.
- Post-revenue companies were able to secure the largest total government contract amount at approximately \$155 million.
- 91% of participants agreed the program exceeded their expectations.

The Accelerator alumni survey responses yielded positive comments regarding the Accelerator's impact while indicating a need to address the difference in programming needs for a true startup and a company further along in development. The UCCS team recommends incorporating optional programming engineered to assist companies in navigating the Valley of Death between Stage II and Stage III of development. Comments from survey data received from the Catalyst Accelerator team and collected by the UCCS team support the overall success of the Catalyst Accelerator program.

Statement of Accomplishments

The UCCS team met with the Catalyst Accelerator program representatives biweekly to collect data, establish dates and times to observe the program personally, and deliver an impactful program analysis spanning the past five years. Prior to these meetings, an agenda was provided to Catalyst including topics for discussion, updates, and requests for additional information. Representatives of the Accelerator program that were involved include KiMar Gartman, Shae Thomas, and Allison Boothe. These contacts provided all the data from the program and invited the team to the campus to gather more information during the Artificial Intelligence and Machine Learning cohort.. One team member recorded the meeting notes including answers to asked questions and additional avenues of research. The initial direction of the project was directed by the application submitted by KiMar in which she laid out several objectives.

The team was tasked with evaluating the post-Accerator data that was available and determining any trends that were present, what services the program offers have been most successful, and what recommendations the team could provide going forward. These findings were to be presented in an analysis report provided to Catalyst at the end of the project. The team would be hosted at Catalyst Campus' downtown location to go over the team's results in front of Catalyst's investors, alumni, and board members.

The team began by studying the data that was provided by Catalyst. These included post-Accelerator surveys, analysis reports written by the Catalyst Accelerator team, and the original Excel spreadsheets with participant's answers to survey questions. The team determined that the program Power BI would be used to collate the data and determine trends. The team used Power BI to visually represent the main drivers that accelerator companies said contributed to their desire to participate. The most popular drivers were "access to government customers" and "business plan development". These were easily identified in a graph provided by Power BI. The most useful services as determined by survey answers were "access to government customers", "business strategy planning", and "networking with potential strategic partners". The team also determined that the accelerator surveys needed to be standardized. Some of the previous surveys asked different questions and provided different choices for answers. With identical surveys, trends in the future can be more easily determined after each cohort. This will allow Catalyst to stay current and iterate along with changing demands.

All relevant findings from the data analysis were packaged into a formal analysis report and presented to the Catalyst Accelerator team in a private deep dive review then presented to relevant parties during the Catalyst Accelerator five year review event.

Scope and Limitations

The Catalyst Accelerator was monitored for 14 weeks by a group of cross-disciplinary students at the University of Colorado Colorado Springs (UCCS). Despite the limited timeframe of 14 weeks, the UCCS team spent copious amounts of time at the AI/ML Accelerator and conducted thorough research. However, it is important to note that this duration may not be sufficient for a comprehensive evaluation of the Accelerator's impact.

All information in this analysis is derived from self-reported data received from Accelerator alumni companies across 12 cohorts. All data and contacts were supplied by the Catalyst Accelerator Team. This report only includes data from the Colorado Springs Accelerator programs beginning with Terrestrial Weather in Spring 2018 and ending with Artificial Intelligence and Machine Learning in Fall 2023.

All views and conclusions herein reflect those of the authors.

Background

The Catalyst Accelerator is a neutral non-profit intermediary created by Catalyst Campus for Technology and Innovation (CCTI) and supported by the Air Force Research Laboratory (AFRL) to aid small business development and government connection. At the end of each Catalyst Accelerator, all companies are asked to complete a post-Accelerator survey through SurveyMonkey to gauge their experience and provide feedback. Comprehensive, raw Excel data from 12 Colorado Spring Accelerator Cohorts (Table 1) was supplied to the UCCS team for analysis. Additionally, the Catalyst Accelerator team provided contact information to Accelerator alumni Companies from each cohort for follow up questions from the UCCS team (See Appendix F). Further information was captured by the UCCS team while attending the AI/ML Accelerator.

The objective of the UCCS team was to conduct an in-depth analysis of the 12 Colorado Springs Accelerators and discern the trends that appear within the program as a whole. The report discusses trends that emerged in the post-Accelerator data and alumni Economic Impact Reports, successes and missteps, biases exercised by the Accelerator team, impact of program changes, cause and effect relationships and recommendations for the future. The ultimate goal of the analysis was to provide CCTI with actionable insights to enhance future Catalyst Accelerator programming.

A comprehensive list of all the Accelerator's and key contacts covered in this report are found in Table 1.

Table 1: Accelerators covered in analysis.

Accelerator	Date	Problem Statement	Person of Contact
Terrestrial Weather	Spring 2018	How might we address the ability to monitor earth's terrestrial environments with the objective of providing improved global weather data and products to support the warfighter?	Tom George - CEO at SaraniaSat Inc.
Positioning, Navigation, and Timing	Fall 2018	The Catalyst Accelerator is seeking teams across the United States of entrepreneurs, startups, and technologists from established companies with commercial solutions to provide PNT in a GPS-denied environment. Submitted solutions may augment, supplement, backup, complement, and improve	Jayson Denney - Government Program Manager at ColdQuanta.

		upon current PNT capabilities provided by GPS.	
Resilient Space Communications	Spring 2019	The Air Force is looking for a suite of options to augment, supplement, backup, complement, and or improve current space communication capabilities. Solutions may be ground-based or space-borne and involve some combination of hardware devices, software, data products, algorithms, or services.	Campbell Marshall - Vice President, International Market Development & Public Policy at Omnispace.
Intelligence, Surveillance, and Reconnaissance	Fall 2019	“Thus, what enables the wise sovereign and the good general to strike and conquer, and achieve things beyond ordinary men, is foreknowledge.” – Sun Tzu, The Art of War	John Beane - CEO at MemComputing, Inc.
Data Fusion for Space Applications	Spring 2020	How might we take advantage of the latest in information analysis and data fusion to provide insight into space objects’ past, current, and predicted trajectories and understand spacecraft capabilities and operator intentions?	Jennifer Halford - President at Caliola Engineering, LLC.
Cyber for Space Applications	Fall 2020	How might we apply cyber technologies to secure the next generation of space operations and increase resiliency?	David Shaw - Co-founder/CCO at Astrapi Corporation
On-Orbit Servicing, Assembly, and Manufacturing	Spring 2021	How can we make servicing satellites in space as easy as maintaining your car?	Vanessa Clark - CEO at Atomos Space William Kowalski - Co-founder/COO at Atomos Space
Digital	Fall	How might the United States	Tom Sheehan - Director of

Engineering For Space Applications: Modeling and Simulation	2021	Space Force (USSF) leverage modeling and simulation to improve operator training, system design, acquisition, architecture resilience, and operations?	Operations at ISSAC, LLC.
Hybrid Data Movement	Spring 2022	How might we provide a secure and scalable hybrid data environment to pull, move and combine diverse sets of data from commercial, public, Allied and Government sources to allow users to find, fix, target, track, engage, and assess on faster timelines?	Ryan Cousins - CEO at KRTKL, Inc.
International Space Domain Awareness	Fall 2022	How might the United States Space Force, its friends, and allies introduce commercial capabilities to its mission environment for International Space Domain Awareness and spaceflight safety?	Hira Virdee - CEO at Lumi Space
Defensive Cyber Operations	Spring 2023	How might the United States Space Force leverage commercial capabilities to identify and automate cyber terrain mapping of complex systems, in order to support existing cyber operations tool suites?	Lawrence Nunn - CEO at Cyber Spatial, Inc.
AI/ML for Space and Maritime Applications	Fall 2023	How might the United States Space Force and United States Navy introduce commercial capabilities to innovate operational mission environments with Artificial Intelligence and Machine Learning?	N/A

The UCCS team utilized internal resources at Catalyst Campus to receive a holistic view of the Accelerator program. All key contacts and their relation to the Catalyst Accelerator are listed in Table 2.

Table 2: Catalyst Accelerator Internal Contacts.

Name	Position
KiMar Gartman	Catalyst Accelerator Program Director at Catalyst Campus for Technology and Innovation
Shae Thomas	Catalyst Accelerator Program Facilitator at Catalyst Campus for Technology and Innovation
Allison Boothe	Catalyst Accelerator Program Coordinator at Catalyst Campus for Technology and Innovation
Mo Kanwischer	Chief Consultant at Catalyst Accelerator
Gregg Walsh	Commercial Sherpa at Catalyst Accelerator
Lauren Hunt	Deputy Director of AFRL based in New Mexico
Sue Payton	Board Member at Catalyst Campus for Technology and Innovation and an Advisor for the Catalyst Accelerator
Shannon Cambra	Catalyst Accelerator contact at Lockheed Martin

Methods

The primary goal of the project was to conduct an analysis of 12 Colorado Springs Accelerator cohorts using post-Accelerator survey data, Economic Impact Reports, and Accelerator alumni surveys. All data from the Catalyst Accelerator was received through a file-sharing tool for businesses, Box File Sharing. Data was transferred through Box to ensure security and ease of workflow. Comprehensive Excel data from post-Accelerator Surveys and the Economic Impact Report was cleaned and transmuted to identify a similar question pattern from all survey samples (see Appendix E). All cleaned data from each Accelerator was recompiled into a single Excel sheet utilized in Power BI.

Power BI, a data visualization platform, was used to analyze quantitative and qualitative data from the comprehensive Excel sheet and the Economic Impact Report by generating graphs and visual aids (see Appendix D).

Qualitative data was collected from an alumni company in 11 of the Accelerator cohorts via email surveys. Each alumni contact responded to a series of questions that gauged their Accelerator experience long after completion of the program (see Appendix F). Surveys were conducted to explore positive aspects of the program as well as pinpoint areas for improvement.

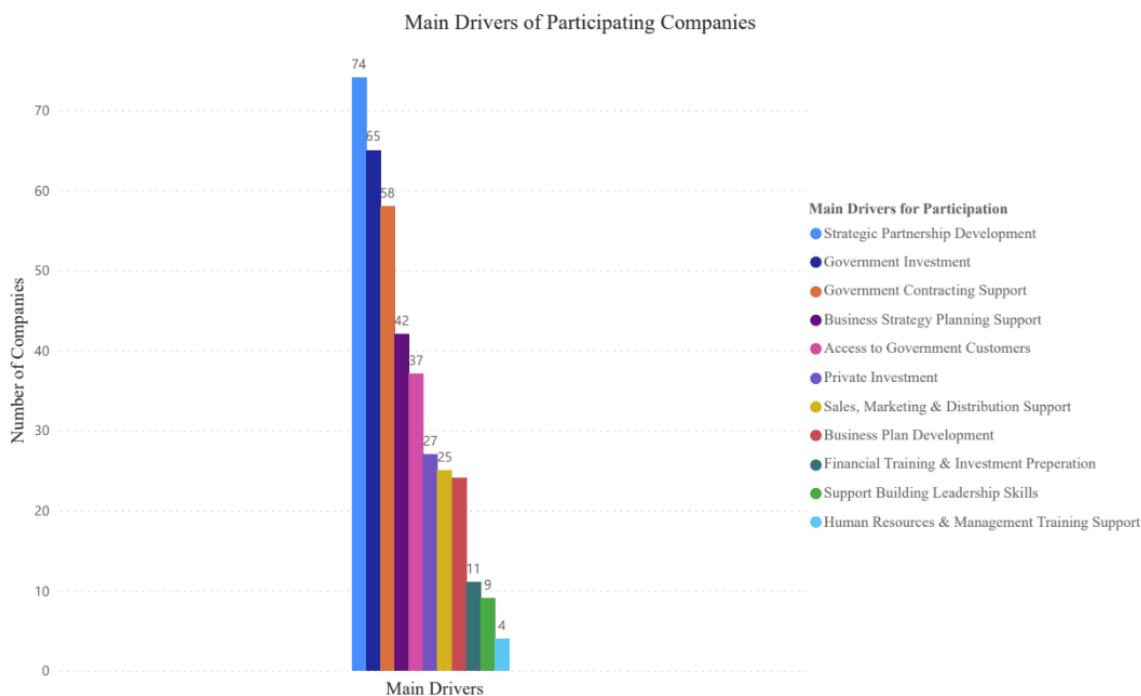
Results

Data was collected from a total of 92 companies across 12 Colorado Springs Accelerators via the post-Accelerator survey each company takes at the end of their Accelerator experience. Data pulled from the Economic Impact report includes data received from 10 Colorado Springs Accelerators from 2018 to 2022. Out of the 78 companies surveyed for the report, there were responses from 74 companies but there were 4 companies that were not responsive to the Economic Impact survey. Further research was conducted through an Accelerator alumni survey created by the UCCS team. The Catalyst Accelerator team made warm introductions to key contacts at 11 alumni companies. Out of the 11 contacts, 9 of the contacts responded to the initial warm introduction and 5 contacts responded to the alumni survey questions. Additional survey questions were sent to the 5 responsive alumni contacts, a total of 3 alumni companies answered the additional survey questions.

Overall Success of Accelerator

At the end of each Accelerator, companies are asked to reflect on their main drivers for participation as well as the most and least successful aspects of the program. Data gathered from all companies across all cohorts are presented in the following bar graphs. Figure 1 presents the top drivers for participation across all cohorts. Figure 2 reflects the top successful aspects of the program throughout all 12 Accelerators. Finally, Figure 3 presents the least successful aspects of the Accelerator program based on the 5 cohorts surveyed.

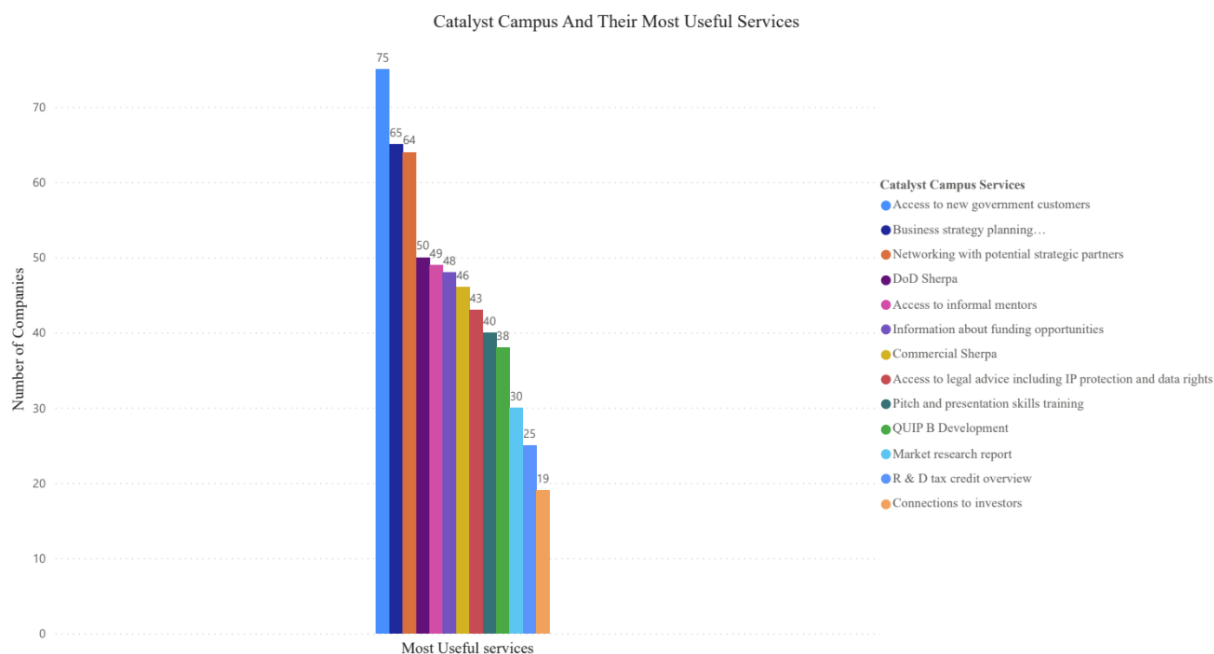
Figure 1: Main Drivers.



An analysis of the main drivers for program participation revealed that strategic partnership development, government investment, government contracting support, business strategy

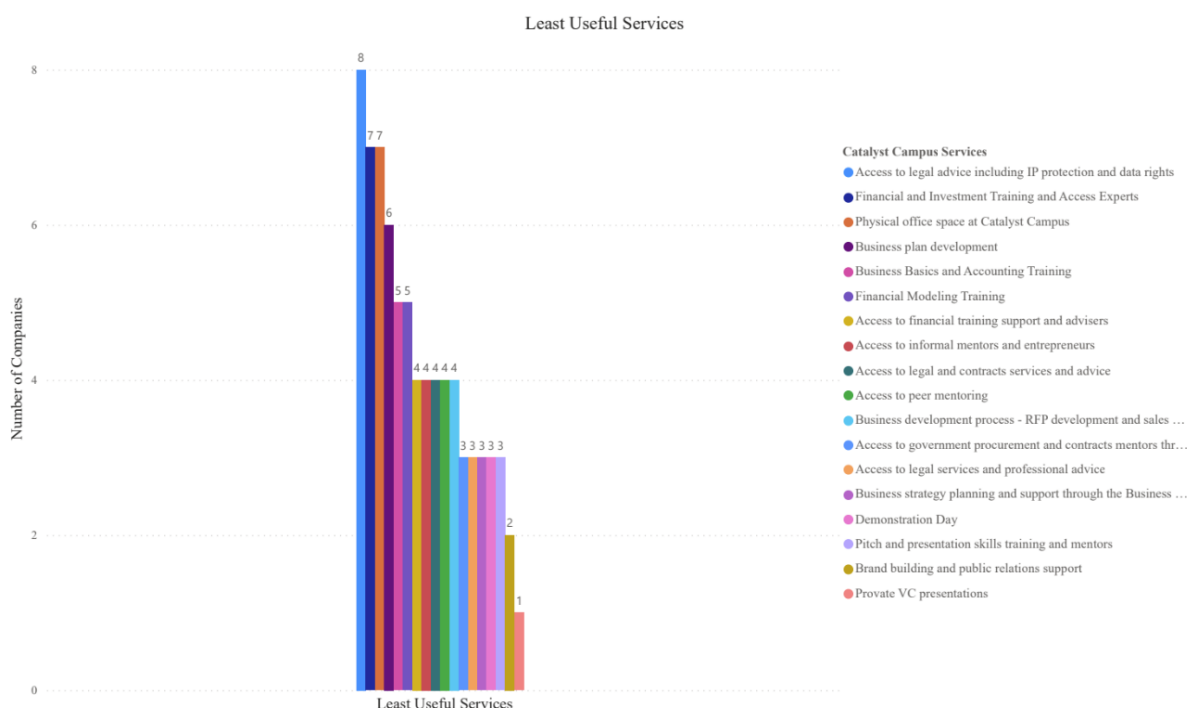
planning support, and access to government partnership were the five top drivers for participating in the Catalyst Accelerator.

Figure 2: Most Useful Services.



Post-Accelerator survey data across all 12 cohorts indicated the five most useful services provided during the Accelerator were access to new government customers, business strategy planning support, networking with potential strategic partners, DoD Sherpas, and access to informal mentors. Companies that were driven to participate in the Accelerator due to access to new government customers and business strategy planning support also found those services to be the most useful. Accelerator services found to be among the most useful but not included in the top main drivers for program participation include networking with potential strategic partners, DOD Sherpas, and access to informal mentors.

Figure 3: Least Useful Services.



Five cohorts including Terrestrial Weather, PNT, Resilient Commercial Space Communication, ISR, and Cyber for Space Apps were given the opportunity to rate the least useful services provided by the Catalyst Accelerator. The services rated the least useful by the aforementioned cohorts include access to legal advice, financial and investment training, physical office space, business plan development, and business basics and accounting training.

Comments in the blue text boxes are derived from the Accelerator alumni survey sent by the UCCS team to an alumni from each cohort.

Comments from Accelerator alumni survey: Aspects of the Catalyst Accelerator you found to be MOST beneficial/effective for your company.

“Working in a small company you are focused on the micro work you need to survive. This program helped us lift our heads to see not only what we are doing but to also see and discuss what others are doing in the same or similar situations. Also the introduction to multiple companies and other potential customers helped us expand our business in a way we had not been able to previously.”

“Direct exposure to the relevant USAF/USSF customers and warfighters to validate some of our business propositions. The high-pace environment at the campus enabling us to work together with other cohort companies to find solutions.”

“The Astrapi team does not have any direct DoD history. The Catalyst Campus Accelerator (CCA) not only provided key introductions, but more importantly insight for validating the

range of Astrapi capabilities for defense use. Those connections and support have enabled Astrapi to close prototyping contracts totaling over \$4 million with support from the USAF Space Systems Command, USSF HQ Space Operations Command, SpOC, and Space Development Agency (SDA).”

“First of all, the whole program was beneficial. It opened a new world for us about the potential to work with the government. We were unaware of SBIRs and how, with the USAF Open SBIRs, they were truly supporting new technology like ours. There were lots of business folks that presented to us. Most all were beneficial. The most beneficial I expected to be the least, and that was the one on the R&D Tax Credit. We definitely got some money back.”

“Face to face interaction with potential government customers as well as current government suppliers.”

“Facilitated customer discovery process with introductions. Introduction to advisors who can help my company scale. Small monetary payout to help cover program and travel costs.”

The Accelerator alumni survey revealed that Catalyst Accelerator alumni value the connections and introductions made during their time at the program. Additionally, one comment noted that the R&D Tax Credit conversation was valuable.

Comments from Accelerator alumni survey: Aspects of the Catalyst Accelerator you found to be LEAST beneficial/effective for your company.

“We had been in business a little over a decade when we went through this program. The program is a big help on how to get started for many but we had some “been there done that” experiences that made some of the modules not really pertinent to our point on the business development process. Maybe a program for true startups and a separate one for companies that have been in business for a while might be better – not sure, just a thought.”

“Not really related to the program but it was frustrating that all direct commercial engagements were limited to US companies.”

“Not being in or near Colorado Springs makes it more difficult to stay engaged. Our cohort was during peak lock-down so we did not participate in person. There were some unique positive results but a large negative was not meeting in person. Fortunately, we have made efforts to try and stay engaged and stop by while in town.”

“I have to say that our USAF Sherpa was useless. He would attend meetings we had with firms and others and was a bump on a log. He never contributed and never made introductions. However, the female Sherpa, I forget her name, I am sorry, actually was very helpful, even though she was not our Sherpa. My comment on this is that the Sherpa's were young Lieutenants. Let's face it, they have not had much of a career, don't have many connections, etc. A more useful Sherpa would be some retired Lt. Col's.”

“As we were already an established government R&D contractor the foundational business aspects were less useful, that said, I believe those same aspects could make or break newer companies.”

“Meetings with the primes. I felt like it was a 1 way exchange where they would learn about our great ideas and then nothing would happen.”

Comments from the Accelerator alumni survey revealed a difference between the needs of a true start-up company and a post-revenue company. Respondents noted that while some topics would be extremely relevant to companies attempting to get off the ground, other more established companies found the same topics repetitive and would benefit from more advanced topics.

Accelerator Component Evaluation

Throughout each of the Accelerators, there were similar components evaluated by each cohort. Table 3 outlines the average ratings of each component seen across multiple Accelerator programs. Rankings for each component are based on a 5-point scale with 5 being the highest rank possible.

Table 3: Average ratings based on post-Accelerator survey results.

Question	Average rating across all surveyed Accelerators (out of 5)
Evaluate the performance of your Catalyst Accelerator team	5.0
I would highly recommend this program to companies seeking to work with the Department of Defense.	4.9
How useful was the one-on-one consulting provided by Mo?	4.8
I would highly recommend this program to pre-revenue enterprises.	4.7
I would highly recommend this program to post-revenue enterprises.	4.6
Evaluate the performance of your AF Sherpa.	4.1
Evaluate the performance of your Commercial Sherpa.	3.9
I would highly recommend this program to companies seeking to raise capital and prepare	3.7

for investment.	
How useful was the market research?	3.7

According to the data collected in post-Accelerator surveys across all cohorts, the performance of the Accelerator team and the one-on-one consulting provided by Mo were consistently ranked the highest throughout all five years of the Catalyst Accelerator. Companies ranked these categories high for the following reasons:

- On the Accelerator team
 - “Working with the Catalyst Accelerator team was such a wonderful experience. I enjoyed everything about working with them. They were extremely helpful, and the program they ran was a well-oiled machine. I was very impressed with the incredible work and coordination needed to make such a successful accelerator.”
 - “The personalities, motivation and dedication of each team member was always present. Further to this the collaboration of the team meant that nothing was impossible. Considering the distance from home the personal touch and care provided a unique opportunity to get to know the team also at a personal level making us feel at home in Colorado Springs.”
- On the one-on-one consulting with Mo
 - “ABC statement was very useful in defining who we are and where we want to be as a company. As was defining the go to market strategy and connecting with people. Mo brings a unique and very contagious enthusiasm to even hard issues.”
 - “Mo is an extremely knowledgeable coach, and gets the messages of the startups to help them shape it to simple easy to understand value propositions. This helped us significantly to simplify the message, and more importantly to shape our offering.”

Overall, companies that have attended the Accelerator are most likely to recommend the program to companies seeking to work with the Department of Defense and least likely to recommend the program to companies seeking to raise capital and prepare for investment. The lowest ranked component of the Accelerator was the market research. Constructive comments are listed below.

- On recommending the program to companies seeking to raise capital and prepare for investment
 - “Seeking capital and preparing for investment did not seem to be primary targets of the program. We would have welcomed more opportunities to interact with investors (not more pitch prep / investment readiness). We sacrificed spending more time raising capital to do this program and do not feel like the program was designed to maximize likelihood of raising in the immediate term.”
 - “I felt like VC/PE was a smaller part of this accelerator, and the representation among VC/PE firms was smaller by far than the representation of many other types of organizations. While there were some valuable segments, this topic's coverage and representation could be improved.”
- On market research
 - “At the time of the research, we weren't sure what direction we were going to go. We didn't narrow or tech or pitch until later and the market research wasn't relevant.”

- “There wasn't much in there that I didn't already have or would have had with some basic research. This must be a difficulty in many cohorts - as the cohort together have complete visibility to that industry, versus an external researcher coming at it relatively cold. The main part I wanted was the commercial value of the data, which is an answer we didn't really get even as a cohort.”

Below, table 4 outlines the responses given from participants that could be averaged across all or most of the 12 Accelerators.

Table 4: Accelerator program averages.

Question	Average across all surveyed Accelerators
Approximately how many hours did you spend each non-resident week on tasks related to the Catalyst Accelerator program?	13.5
How many customer discovery interviews did you conduct during the Accelerator program? (DoD & Commercial)	51.9
How many of the customer discovery contacts do you think might lead to a contract or some sort of funding for your company?	6.8
How many teaming opportunities have you had or expect to have with current or alumni Accelerator companies?	3.4

On average, companies spent 13.5 hours each non-resident week on tasks related to the Catalyst Accelerator. Companies conducted an average of 52 customer discovery interviews with approximately 7 of the interviews leading to a contract or funding resulting in a 13% success rate from interview to contract phase. Companies reported they had an average of 3 teaming opportunities with current or alumni Accelerator companies.

Comments from Accelerator alumni survey: How could Catalyst better prepare you for the experience?

“I would create a couple of sections specifically geared toward the Catalyst and one towards the participant. i.e. the Catalyst will provide briefings on, we will have speaks that provide, we will be having workshops to, we will be providing examples of, this sort of thing. Then as a participant (I know some of this was in the documentation) you will be expected to commit x hours daily over x weeks for x months. You will be able to create marketing information for your specific company, learn techniques to better present your company as a viable small business alternative, meet with potential customers, learn how the government funding, contracting and SBIRs programs operate, create a demonstration of your newly developed

company profile, etc.”

“Not necessary in my view, the information we got was great.”

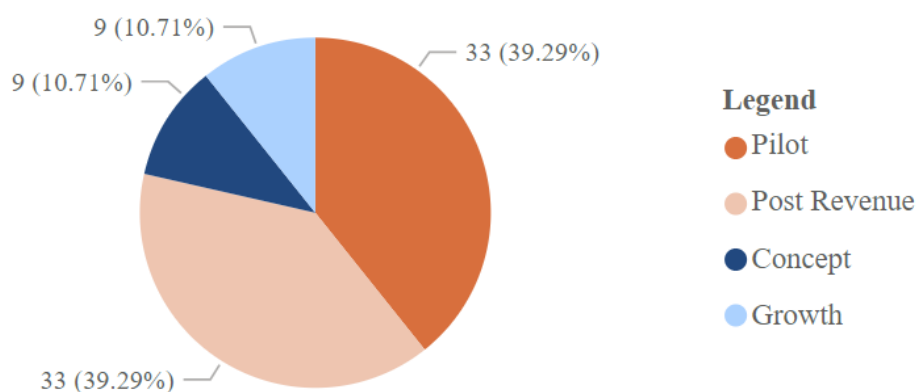
“I don't think they needed to. What they provided was sufficient. We understood our commitment.”

The alumni survey revealed that the information received prior to Accelerator commencement was satisfactory. Although constructive feedback indicated that more in depth explanations of Accelerator programs would be beneficial.

The Catalyst Accelerator attracts numerous small businesses. When entering into the program, businesses may be in different stages of development. Figure 4 outlines the level of maturity at the beginning of the program of each company across the 11 Accelerators asked the question.

Figure 4: Level of maturity.

What level of maturity was your company at the start of the program?



Out of the 11 total Accelerator cohorts that answered the survey question, there was an even split of 39.29% between pilot and post-revenue companies participating in the program. Similarly, there was an even split of 10.71% of concept and growth companies.

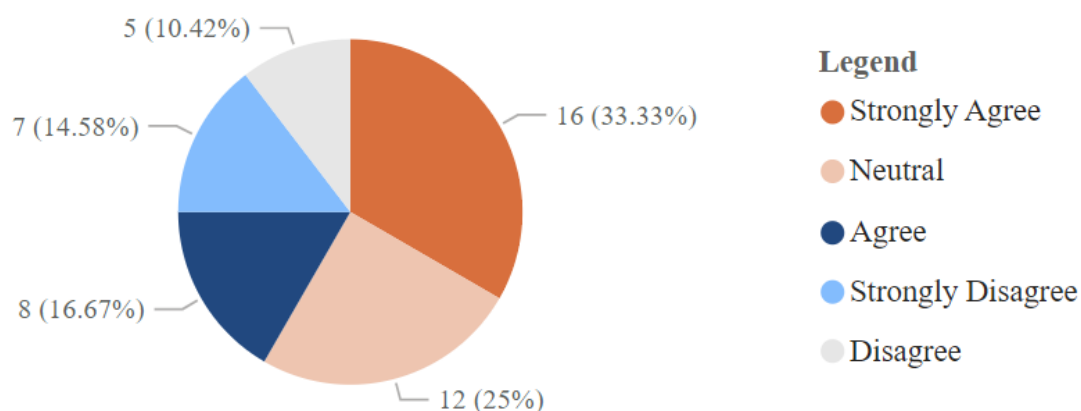
During the Accelerator program, sponsors provided companies in some of the Accelerators with funding to cover the costs of attending. Table 5 breaks down the sponsors and funding amount that each company received during their program. Additionally, Figure 5 displays the survey results of the funding significance for Accelerator participation.

Table 5: Funding.

Accelerator	Funding Sponsor	Funding Amount (per company)
Terrestrial Weather	Space Capital Colorado	\$15,000 with expectation that \$50,000 would be repaid by each company
Positioning, Navigation, and Timing	N/A	N/A
Resilient Commercial Space Communications	Space Capital Colorado	\$15,000 with expectation that \$50,000 would be repaid by each company
Intelligence, Surveillance and Reconnaissance	Space Capital Colorado	\$15,000 with expectation that \$50,000 would be repaid by each company
Data Fusion	Microsoft	\$15,000 grant
Cyber for Space Applications	Corporate Sponsorship by Booz Allen Hamilton	\$12,000
On Orbit Servicing, Assembly and Manufacturing	Corporate Sponsorship by Booz Allen Hamilton	\$6,000
Digital Engineering For Space Applications: Modeling and Simulation	Lockheed Martin	\$15,000
Hybrid Data Movement	Microsoft	\$15,000
International Space Domain Awareness	OneDev	\$15,000
Defensive Cyber Operations	Two Six Technologies and ISSAC, LLC	\$45,000
AI/ML for Space and Maritime Applications	N/A	N/A

Figure 5: Role of grant funding in Accelerator involvement.

Did the grant funding play a significant role in your applying to and participating in the Accelerator?

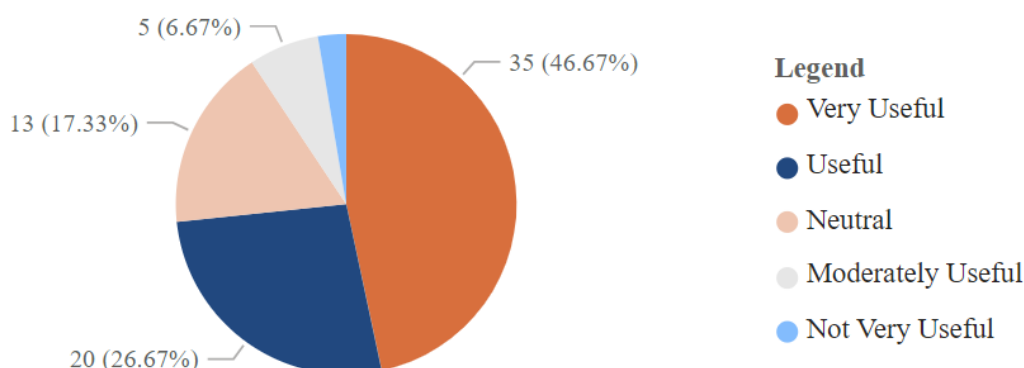


Post-Accelerator survey results from the Cyber for Space Applications through the Defensive Cyber Operations cohorts indicate that 50% of participants agree or strongly agree that the grant funding played a significant role in applying and participating in the Accelerator. Additionally, 25% were neutral and 25% disagree or strongly disagree that grant funding played a significant role in applying and participating in the Accelerator. However, it is important to note that each cohort received grant funding in different amounts and from different donors (Table 5) which may skew results.

Companies are assigned an Air Force Sherpa and Commercial Sherpa to help guide them through the program and connect them to relevant contacts. Figure 6 displays the survey results rating the performance of the Air Force Sherpas and Figure 7 explores the overall rating of the Commercial Sherpas. In every cohort, each company was assigned one Air Force Sherpa and one Commercial Sherpa.

Figure 6: Performance of AF Sherpa.

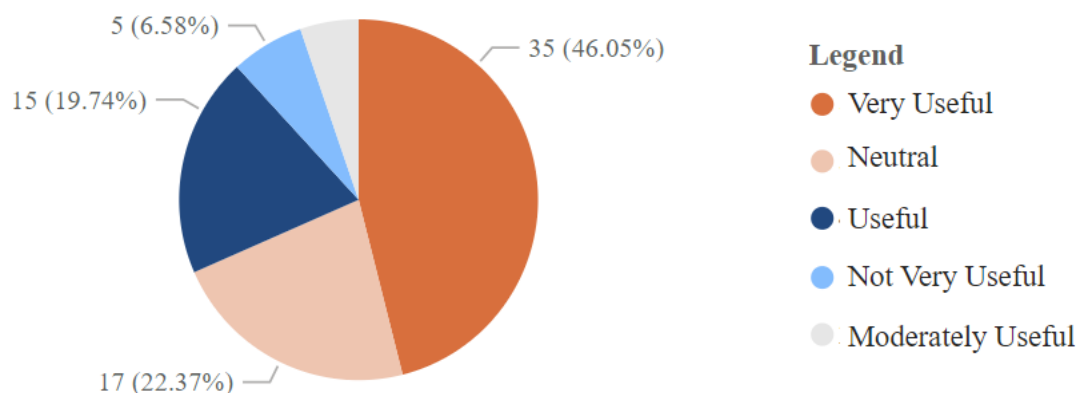
Evaluate the performance of your AF Sherpa.



The post-Accelerator survey indicated that 73.34% of the respondents found the Air Force Sherpas to be very useful or useful across all cohorts. While 17.33% were neutral and 9.33% reported the Air Force Sherpas as moderately useful or not very useful.

Figure 7: Performance of Commercial Sherpa.

Evaluate the performance of your Commercial Sherpa.



The survey revealed that 65.79% of the respondents found the Commercial Sherpas to be very useful or useful. 22.37% of the respondents were neutral and 11.84% reported the Commercial Sherpas to be moderately useful or not very useful.

Economic Impact

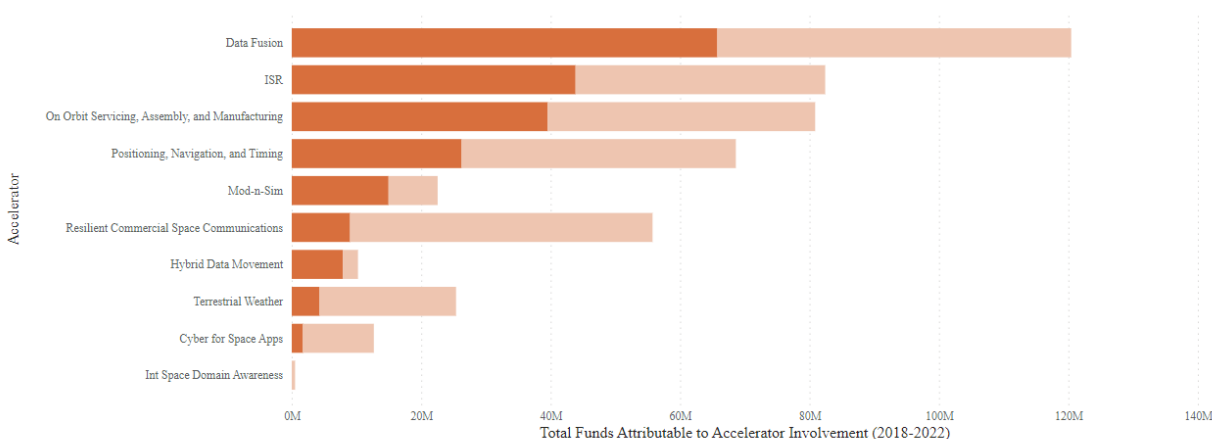
The economic impact of the Catalyst Accelerator was measured through Government contract amount and private capital. In total, companies that have participated in the Catalyst Accelerator have reported \$266 million in government contract amount and \$213 million in private capital yielding a grand total of \$479 million in funds attributable to Accelerator involvement across 10 of the Accelerator programs. The following bar graphs break down the funding. The total funds

attributable to Catalyst Accelerator involvement broken down by Accelerator are displayed in Figure 8. Total private capital is evaluated by company maturity level in Figure 9 while total government contract amount measured by company maturity level is explored in Figure 10. All financial information was self reported via an Economic Impact survey sent out by the Catalyst Accelerator team in 2022.

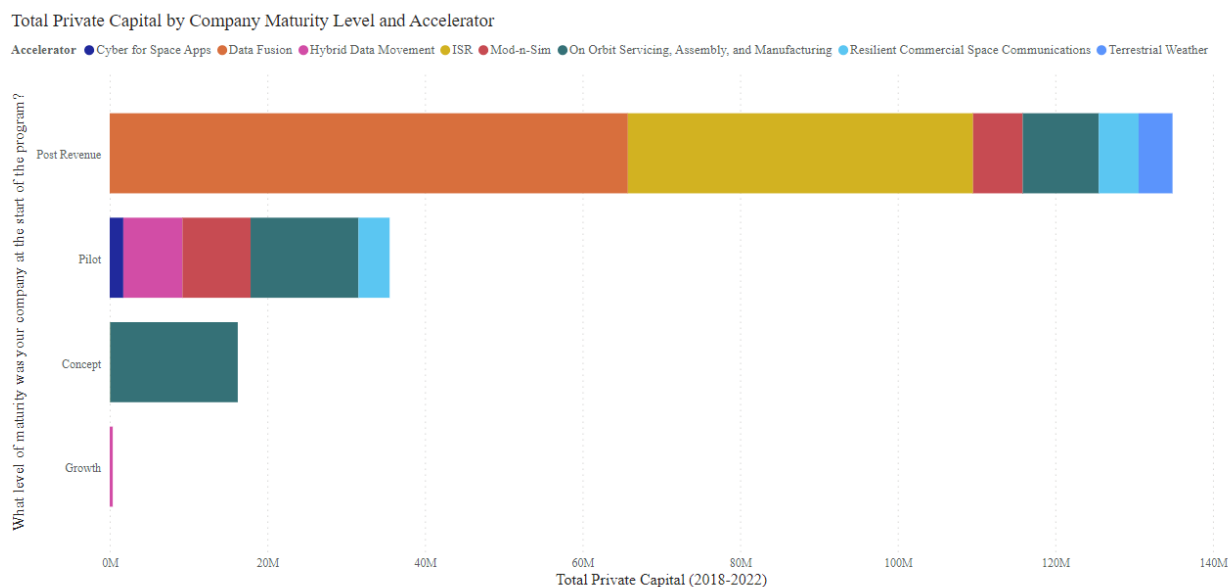
Figure 8: Funds Attributable to Accelerator Involvement

Funds Attributable to Accelerator Involvement by Company Maturity Level and Accelerator

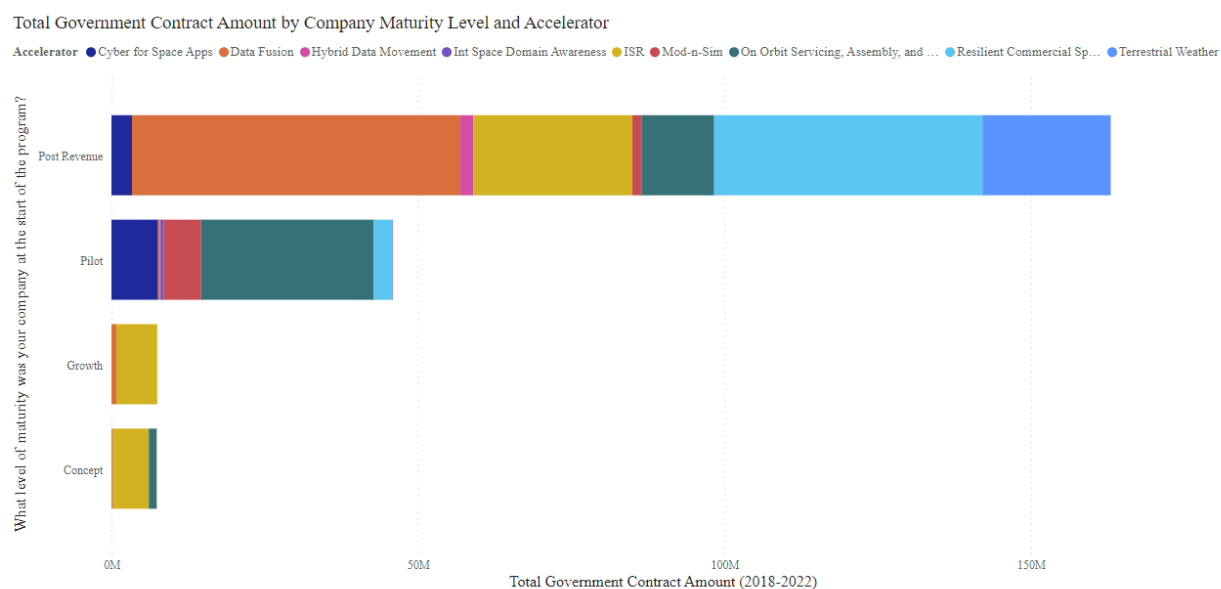
● Sum of Total Private Capital (2018-2021) ● Sum of Total Government Contract Amount (2018-2021)



Data Fusion, ISR, and On Orbiting Servicing, Assembly, and Manufacturing were found to have the most funds attributable to Accelerator involvement. Data Fusion acquired approximately 120M in total private capital and total government contract amount. From Data Fusion, Slingshot Aerospace amassed the most funding with \$31 million in government contracts and \$64 million in private capital. The funding secured by Slingshot Aerospace is the largest across all companies that were responsive to the 2022 Economic Impact survey conducted by the Catalyst Accelerator team. The International Space Domain Awareness cohort secured the least amount of funding at \$512,000 across all cohorts that participated in the survey. The low total fund value is due to only two companies self-reporting their contract and private capital values. In addition, this cohort was composed of seven international and one national company which made securing Department of Defense contracts more challenging.

Figure 9: Total Private Capital.

Post-revenue companies that participated in the Accelerator program were able to secure more total private capital than pilot, concept, or growth companies. Post-revenue companies were able to amass approximately \$135 million in private capital due to Accelerator involvement. Post-revenue companies in the Data Fusion and ISR cohorts make up a significant amount of the total private capital. The stark difference between post-revenue and other maturity level's private capital could be due to differences in resources and market ready product.

Figure 10: Total Government Contract Amount

Similarly, post-revenue companies were able to secure the largest total government contract amount at approximately \$155 million. Post-revenue companies from Data Fusion and Resilient

Commercial Space Communications received the largest government contracts. Hendron Space from the Resilient Commercial Space Communications cohort amassed \$30.2 million in government contracts and Slingshot Aerospace from the Data Fusion cohort gained \$31 million in government contract amount.

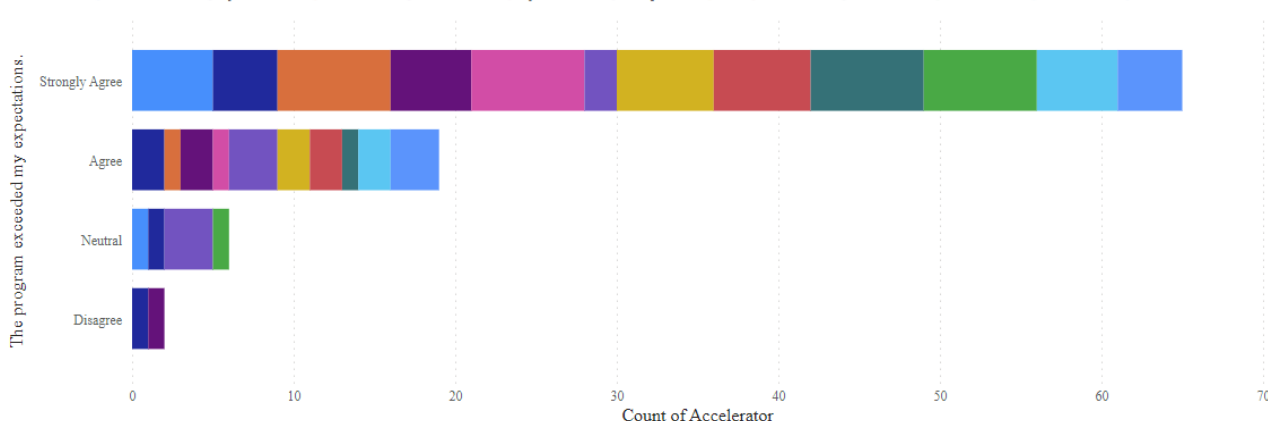
Overall Program Evaluation

Companies were asked to reflect on their experience at the Accelerator program in a post-Accelerator survey. Figure 11 displays the relationship between program expectations and Accelerator cohort. Additional comments gathered during the Accelerator alumni survey provide insight on their Accelerator experience.

Figure 11: Program rating.

The program exceeded my expectations.

Accelerator Cohort: Artificial Int... Cyber for S... Data Fusion Defensive ... Hybrid Dat... Int Space ... ISR Mod-n-Sim On Orbit ... Positionin... Resilient ... Terrestrial ...



Approximately 91% of participants in the Catalyst Accelerator strongly agreed or agreed that the program exceeded their expectations. 7% of companies remained neutral regarding their expectations. The remaining 2% disagreed that the program exceeded their expectations. The comments from the members of the Cyber for Space Applications and Defensive Cyber Operations for Space cohorts are as follows:

- “My only expectation was to use this program as a catalyst for a SBIR grant. That is the single thing that was stated at the time that we came into the program. Only 1 thing stated and from my perspective, the program didn't help with that even in the slightest way.”
- “The lack of customer buy-in and interest in working with the cohort was very disappointing. Everything else was great!”

Comments from Accelerator alumni survey: Did the program meet your expectations? Why or why not?

“Not knowing what really to expect, we were going into the program with an open mind with no real expectations. Initially it was hard to wrap my head around what to really expect but I

have always been someone who wants to learn. That being said, the program far exceeded my expectations and proved very valuable in the long run.”

“Absolutely, it met and exceeded my expectations. I would have loved to have done such a program a little earlier in the company journey, but I am glad we got to go through it at that stage.”

“We audited one of the cohort pitch days prior to applying, so we had high expectations. The program exceeded our teams’ expectations from the beginning to the end. The caliber of the programming, the stakeholders, the sponsors, the staff, and other companies really blew us away. We immediately realized how significant it was to be accepted. The lockdown enabled the CCA team to virtually bring in many presenters who may not have had the time to participate in person. As mentioned above, we have leveraged those engagements into several contracts and expect to continue to do so with a growing number of capabilities.”

“I had no expectations, and was blown away by the benefit.”

“I went into the accelerator not knowing what to expect and was pleasantly surprised with all of the planned interactions and well planned training material.”

“Absolutely. It helped to put our company on the map. The facilitated process of customer discovery with introductions and accountability helped us to come up with 2 STRONG concepts for our technology – we converted that into 2 pitch day wins - \$3.4M.”

Comments gathered from the Accelerator alumni survey reported unknown expectations for the Accelerator program that ultimately lead to a positive experience. Companies noted that the introductions to investors lead to funding and contracts.

Comments from Accelerator alumni survey: How could the Accelerator continue to offer value to you and other alumni?

“The open houses and alumni gathering are still providing new opportunities for us which is a definite plus.”

“I’m not sure if this is possible due to the breadth of program themes, but ongoing notification of opportunities and areas of interest would be valuable.”

“The CCA team still hosts virtual and in-person events which we try to participate in. We also have been happy to visit with prospective companies and participate in ad-hoc sessions to answer questions regarding our experience. Perhaps an annual alumni event that includes USSF and USAF, and stakeholder folks? Short company updates? 1:1 sessions?”

“Not sure. I think they have their hands full.”

“There can never be enough opportunities to do business development. Hosting events up the front range would engage us more and bring in more and different participants (Denver, Boulder, ect).”

“alumni program that would give a second chance. There weren’t pitch days in 2023 and now we have a funding issue.”

Companies that have participated in the Accelerator noted interest in open houses, alumni gatherings, and more locations for CCTI sponsored events to foster business development for alumni companies.

Comments from Accelerator alumni survey: What challenges still persist for you and your company?

“The biggest issue we have run into along with a few other companies is crossing the valley of death. We had multiple SBIR phase I and II but have not been able to cross into the prime contractor position of a phase III contract. A Prime contract is our goal for getting out from under prime contractor control.”

“A major challenge is doing business in the US as a foreign entity. I'm gearing up to set up a US entity to get around this - which is expensive and slow. “

“Identifying transition programs and bridging from prototype projects into program funding is a challenge. The obvious issue is the brakes are put on development programs if there is no funding. Consolidation of prime contractors over the years exacerbates the challenge. This problem also makes it difficult to raise external funds as institutional investors want a predictable (reasonable) cash-flow. These are not unique to Astrapi and AFWERX and others are working to reduce those challenges.”

“We're caught in the valley of death with the government. Actually, that is how the Catalyst could help. The DoDo desperately needs a catalyst that chaperones companies from Phase II to Phase III. It should start half way through a Phase II, if the technology is meeting expectations, then immediately start to identify potential Phase III customers, get meetings, have potential phase III customers then attend Phase II standing meetings so that the potential customer will see the continued progress and hopefully will begin preparation for a Phase III.”

“Even though we have been very successful in VC fund raising (>\$200M) and continuing to win larger development projects, we still struggle with the large investment needed to commercialize quantum atomic devices and get into programs of record. We now have a lobbyist presents in DC which is something we had to learn on our own. This was necessary in an effort to direct government R&D funding for Quantum, outside of the SBIR and DARPA

world, away from large Primes (ex. Honeywell) and industry giants (ex. Alphabet) to a business of our size. We are bringing three products to market this year, but had to develop most of this technology on dilutive VC funding.”

“Getting more traction on our SBIR technologies. We need warmer introductions and better advisors to get us to the next step. Having the SBIR is great, but then we get stuck. We are still having issues getting signed MOUs. The accelerator program went by so fast that we couldn’t get enough out of it, plus COVID hit in the middle of our cohort. It would be VERY useful to do it again, but focusing on getting traction and funding beyond the SBIR program through proven processes and facilitated customer discovery.”

Challenges that persist for alumni companies include navigating the Valley of Death (Phase II to Phase III transitioning) and securing enough funding to keep developing and gain more traction from the government to secure contracts. Additionally, one company noted their struggle to do business with the United States as a foreign company.

Recommendations for Innovation

During that past five years, many companies made recommendations during the post-Accelerator survey for the Catalyst Accelerator team to take into consideration. The Accelerator alumni survey captured additional and repetitive recommendations. Common suggestions included:

- Increased alumni engagement through alumni gatherings at Catalyst Campus with USSF, USAF, and stakeholders.
- Host networking events for alumni in locations around the United States.
- Host an additional Accelerator with the purpose of aiding alumni through the Valley of Death (Phase II to Phase III transition). OR recommend Accelerator programs to alumni that can help companies navigate the Valley of Death.
- Host gatherings for Accelerator alumni and attendees to debrief before or after major conferences related to Space and Technology.
- Utilize the flexibility of hybrid formats to allow presenters who may not be able to travel to CCTI to share their knowledge with attendees.
- Create an email chain notifying alumni about new government innovation opportunities.
- Add more content pertaining to the Valley of Death, NIST or other compliances, and security clearances/classified issues.

All recommendations given by alumni were taken into consideration by the UCCS team. After considering the feasibility of each suggestion, the UCCS team would recommend that the Catalyst Accelerator team consider splitting the cohort between true startups and post-revenue companies only for sessions that may be redundant for more experienced companies. During the split, one session would focus on go-to-market strategy while the other would hone in on navigating the Valley of Death. This strategy would require two speakers to visit at the same time and each set of companies meet in different rooms. This dual topic strategy is recommended due to feedback from alumni stating a couple Accelerator topics were repetitive and other alumni urging for more topics on navigating the Valley of Death.

Independent of any recommendations received from Accelerator alumni, the UCCS team recommends a standardized post-Accelerator survey. A consistent survey capturing quantitative data would make data extrapolation more efficient across multiple cohorts. In order to hone in on achievable recommendations for future Accelerator programs, inserting a multiple choice question asking participants to select the most useful and feasible suggestion would allow the Catalyst Accelerator team to gauge which recommendations to implement (Figure 12).

Figure 12: Multiple choice survey example.

- Which of the following would add value to future Accelerator programs?
- A. A networking event catered towards alumni to connect with investors.
 - B. An email chain notifying alumni of government innovation opportunities.
 - C. Increased topics during the Accelerator on navigating the Valley of Death.
 - D. Bringing in a professional to discuss NIST compliance in depth.

Conclusions

Across all 12 of the Catalyst Accelerators, companies were overwhelmed by the support and opportunities given to them by the program. The Accelerator alumni survey and post-Accelerator surveys indicated that the program was an overall success with 91% of companies claiming the program exceeded their expectations. Companies were impressed by the networking opportunities, access to new government customers, and business strategy planning support provided. One-on-one consulting, including business strategy planning support, provided by Mo Kanwischer received the highest ranking of all components alumni were asked to evaluate. Additionally, alumni companies noted an interest in future alumni networking events, open houses, and the national expansion of Catalyst Accelerator events to fuel business development in a more accessible manner.

When compared to Accelerator cohorts and company maturity level, the economic impact report revealed that post-revenue companies receive more in private capital and government contract amount than pilot, growth, or concept companies. In total, companies that have participated in the Catalyst Accelerator have reported \$266 million in government contract amount and \$213 million in private capital yielding a grand total of \$479 million in funds attributable to Accelerator involvement across 10 of the Accelerator programs. The cohort that produced the largest economic impact was Data Fusion, producing roughly \$120 million in funds attributable to Accelerator involvement largely due to funding secured by Slingshot Aerospace.

In future Accelerators, data from post-Accelerator surveys and the Accelerator alumni survey indicate a need for versatile programming that caters to the needs of true startups as well as more advanced companies. True startup companies valued the parts of the program that focused on business strategy planning while more advanced companies indicated a need for more programming related to enduring the Valley of Death between Stage II and Stage III of development. Based on data evaluated in this report, the UCCS team suggests that the Catalyst Accelerator team integrate dual programming within the cohorts to suit the different needs of true startup companies as well as companies reaching the later stages of development.

Throughout evaluating all 12 of the Colorado Springs Accelerator programs, the UCCS team thoroughly supports the formidable work accomplished by the Catalyst Accelerator team over the past five years. Numerous elated comments left by alumni companies support the overall success of the Catalyst Accelerator program hosted by Catalyst Campus for Technology and Innovation.

Appendix

Appendix A: Scope of Work

SCOPE OF WORK

September 15th, 2023

Overview

As the first of its kind, The Bachelor of Innovation (BI) degree program challenges students to think differently and collaboratively approach obstacles in the framework of being an innovator. Innovation is defined as the transformation of ideas into impact. Innovation courses are different from typical lecture-style courses as students are encouraged to learn ontologically through accomplishments and mistakes. BI students are given an opportunity to manage responsibility, deliver results, and eventually lead a team from beginning to project completion. By utilizing a wide variety of skill sets on a team, students in the BI program can innovate for clients locally, nationally, or globally. These teams consist of sophomores, juniors, and seniors in college pursuing a variety of majors from cyber security to museum studies. These teams are multi-functional and cross-disciplinary to expose students to working with members in different disciplines. Through this, the BI program exposes students to three different clients during their college career with their third client project requiring them to take the lead role. The BI teaches students valuable skill sets and provides real-life experience for students to incorporate in industry after they graduate college. The goal of the team is to leverage their individual perspectives and deliver the ultimate win for the client and their organization.

Bachelor of Innovation Team

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BI Client Application

Company: Catalyst Campus for Technology & Innovation

Contact Name: KiMar Gartman

Email: KiMar.Gartman@CatalystCampus.org

Phone: 701.500.5469

Website: <https://catalystaccelerator.space/>

Description:

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The project that I am proposing as the Director of the Catalyst Accelerator is to have a group of UCCS students do an analysis of all 13 Accelerators and find the trends that emerge for the program overall. Questions I would pose for the UCCS team would include (but are not limited to) the following:

1. What overall trends emerge? What micro trends emerge?
2. When taken with the Alumni Economic Impact Reports, what additional trends emerge?
3. What parts of the programs have been most successful and why? least successful and why?
4. What impact did changes to the program produce over the Accelerator's lifetime?

5. Does the data reveal biases exercised by the Accelerator team?
6. What cause and effect relationships can be identified through the data trends?
7. What recommendations for the future emerge from the data?

The milestones I anticipate for this project would include:

1. The UCCS team gathers information through participation in the Fall 2023 Accelerator (dates at bottom of this section), interviews with Accelerator team and Government leads, and consideration of past analyses and economic impact reports--start as soon as possible.
 2. The UCCS team works on analysis with support of the Accelerator team, as needed--throughout semester.
 3. The UCCS team shares Final Analysis with relevant parties by November 30, 2023.
 4. The UCCS team presents findings on December 7, 2023.
- (Dates of Fall 2023 Accelerator--August 22-31 in Colorado Springs, Sept 25-28 Virtual, October 17-25 in Colorado Springs, Nov 7-10 in Colorado Springs with Demo Day on November 9)

I see the outcome of this project being defined by two distinct deliverables:

1. A formal written, comprehensive analysis due November 30, 2023.
2. A formal presentation of findings to relevant UCCS leadership, CCTI leadership, Catalyst Accelerator team, and Government stakeholders (an anticipated group of approximately 10 to 15 people) on December 7, 2023. My expectation is that the analysis will be released to relevant parties as a read-ahead, and the presentation will happen a week later with information summarized in a PowerPoint presentation (or comparable platform) with time given for Q&A. Following the presentation, the Accelerator team will host a small networking event for the audience to interact with students and each other.

Project Name- Catalyst Campus for Technology and Innovation

Project Purpose

The purpose of the project/ ultimate win is to identify trends in the Accelerator program as well as best practices, lessons learned, and recommendations for future programming.

Benchmarks

1. Gather information through participation in the Fall 2023 Accelerator (Dates as listed below), interviews with Accelerator team and Government leads, and consideration of past analyses and economic impact reports. Cohort information including company descriptions, problem statements, Post-Accelerator analysis, and raw data from 2018 - 2023 will be provided from CCTI via DropBox. The UCCS team will provide progress reports at bi-weekly meetings. Projected date of completion is marked by the last progress meeting on November 27th.

- a. October 17 - 25, programming 8:30 AM - noon
 - b. November 7 - 10, programming 8:30 AM - noon
 - c. Demo Day is November 9th beginning at 4PM
2. Final version of written formal analysis to be delivered by November 30th. Analysis will include discussion on the effectiveness of the program in the areas listed below. This is not an exhaustive list and may be supplemented by additional findings.
 - a. Pre-Accelerator activities- Recruitment, expectation setting, sponsorship
 - b. Accelerator program-
 - i. Curriculum offerings
 - ii. Subject matter experts
 - iii. Government participation
 - iv. Sherpas- Government and Commercial
 - v. Events- happy hours, Community Days, Demo Days
 - c. Post Accelerator activities- alumni outreach and programming (may be pulled from Economic Impact Report)
3. Formal presentation of findings to relevant UCCS leadership, CCTI leadership, Catalyst Accelerator team, and Government stakeholders on December 7th. The presentation and subsequent small networking event will be hosted at Catalyst Campus. Questions that may be answered:
 - a. How effective is the Accelerator program? What parts are more so than others and why?
 - b. What trends emerged from the data?
 - c. What recommendations does the team have for a more effective future?


Meeting Agreement

The UCCS team and CCTI will engage in virtual bi-weekly project status meetings on Microsoft Teams– Oct 2, 16, 30, Nov 13, 27 from 12:30 - 1:30 PM

https://teams.microsoft.com/l/meetup-join/19%3ameeting_OGNjZmE2ZWUtOWE4Ny00YmI3LWI1OTctOWNjNWE2YTVmYWNm%40thread.v2/0?context=%7b%22Tid%22%3a%22529343fa-e8c8-419f-ab2e-a70c10038810%22%2c%22Oid%22%3a%22bd7a6aee-b9e7-418f-bbd6-ffa08274fc3%22%7d

Prior to each meeting, the UCCS team will provide an agenda of the action items to be covered during the meeting. Additionally, the UCCS team will provide notes from all the meetings upon completion of the semester.

Signatures**Client:**


KiMar Gartman

9/18/23

Date

Innovation Team:

Marcus Manuel

9/15/23

Marcus Manuel

Date


Meghan Germain

9/15/23

Meghan Germain

Date


Jerrod Dalupan

9/15/23

Date


Jay Polakam

9/15/23

Date

Cannon Hritz

9/15/23

Cannon Hrtiz

Date


Alan Sanchez

9/15/23

Date

Appendix B: Revised Scope of Work

SCOPE OF WORK

September 15th, 2023

Overview

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The Catalyst Accelerator is fully funded through the AFRL/RV. Its purpose is to find innovative technologies being developed by US (primarily) and global startups and small businesses that solve a stated challenge for Air Force/Space Force. While in the program, the Accelerator supports the 6-8 competitively-selected cohort companies by providing connections to Government and Commercial potential partners, customers, users, etc. The program's secondary foci are centered around mentorship, networking, and business development. So far, the Catalyst Accelerator has run 13 3-month Accelerators since 2018--11 in COS focused on Space Force tech gaps and 2 in Ogden, UT serving Hill Air Force Base. Metrics and the success of the program are based largely on several surveys filled out by cohort companies prior to, during, and after their Accelerator experience. At the close of every Accelerator, an analysis is done of the survey results capturing successes, best practices, areas for improvement, and recommendations for future Accelerators. Annually, alumni are asked to provide their traction metrics resulting from their experience in the program. These numbers are also analyzed and are captured in an Alumni Economic Impact report.

The project that I am proposing as the Director of the Catalyst Accelerator is to have a group of UCCS students do an analysis of all 13 Accelerators and find the trends that emerge for the program overall. Questions I would pose for the UCCS team would include (but are not limited to) the following:

1. What overall trends emerge? What micro trends emerge?
2. When taken with the Alumni Economic Impact Reports, what additional trends emerge?
3. What parts of the programs have been most successful and why? least successful and why?
4. What impact did changes to the program produce over the Accelerator's lifetime?

5. Does the data reveal biases exercised by the Accelerator team?
6. What cause and effect relationships can be identified through the data trends?
7. What recommendations for the future emerge from the data?

Revision: Members of the UCCS team analyzed all 12 of the Colorado Springs Accelerator.

The milestones I anticipate for this project would include:

1. The UCCS team gathers information through participation in the Fall 2023 Accelerator (dates at bottom of this section), interviews with Accelerator team and Government leads, and consideration of past analyses and economic impact reports--start as soon as possible.
 2. The UCCS team works on analysis with support of the Accelerator team, as needed--throughout semester.
 3. The UCCS team shares Final Analysis with relevant parties by November 30, 2023.
 4. The UCCS team presents findings on December 7, 2023.
- (Dates of Fall 2023 Accelerator--August 22-31 in Colorado Springs, Sept 25-28 Virtual, October 17-25 in Colorado Springs, Nov 7-10 in Colorado Springs with Demo Day on November 9)

I see the outcome of this project being defined by two distinct deliverables:

1. A formal written, comprehensive analysis due November 30, 2023.
2. A formal presentation of findings to relevant UCCS leadership, CCTI leadership, Catalyst Accelerator team, and Government stakeholders (an anticipated group of approximately 10 to 15 people) on December 7, 2023. My expectation is that the analysis will be released to relevant parties as a read-ahead, and the presentation will happen a week later with information summarized in a PowerPoint presentation (or comparable platform) with time given for Q&A. Following the presentation, the Accelerator team will host a small networking event for the audience to interact with students and each other.

Revision: The UCCS team sent the final report as a read-ahead on November 30th. The deep dive review with the Catalyst Accelerator team occurred on December 1st. Finally, the date of the presentation was moved to Friday, December 8th.

Project Name- Catalyst Campus for Technology and Innovation

Project Purpose

The purpose of the project/ ultimate win is to identify trends in the Accelerator program as well as best practices, lessons learned, and recommendations for future programming.

Benchmarks

4. Gather information through participation in the Fall 2023 Accelerator (Dates as listed below), interviews with Accelerator team and Government leads, and consideration of past analyses and economic impact reports. Cohort information including company descriptions, problem statements, Post-Accelerator analysis, and raw data from 2018 - 2023 will be provided from CCTI via DropBox. The UCCS team will provide progress reports at bi-weekly meetings. Projected date of completion is marked by the last progress meeting on November 27th.
 - a. October 17 - 25, programming 8:30 AM - noon
 - b. November 7 - 10, programming 8:30 AM - noon
 - c. Demo Day is November 9th beginning at 4PM
5. Final version of written formal analysis to be delivered by November 30th. Analysis will include discussion on the effectiveness of the program in the areas listed below. This is not an exhaustive list and may be supplemented by additional findings.
 - a. Pre-Accelerator activities- Recruitment, expectation setting, sponsorship
 - b. Accelerator program-
 - i. Curriculum offerings
 - ii. Subject matter experts
 - iii. Government participation
 - iv. Sherpas- Government and Commercial
 - v. Events- happy hours, Community Days, Demo Days
 - c. Post Accelerator activities- alumni outreach and programming (may be pulled from Economic Impact Report)
6. Formal presentation of findings to relevant UCCS leadership, CCTI leadership, Catalyst Accelerator team, and Government stakeholders on December 7th. The presentation and subsequent small networking event will be hosted at Catalyst Campus. Questions that may be answered:
 - a. How effective is the Accelerator program? What parts are more so than others and why?
 - b. What trends emerged from the data?
 - c. What recommendations does the team have for a more effective future?


Meeting Agreement

The UCCS team and CCTI will engage in virtual bi-weekly project status meetings on Microsoft Teams– Oct 2, 16, 30, Nov 13, 27 from 12:30 - 1:30 PM

https://teams.microsoft.com/l/meetup-join/19%3ameeting_OGNjZmE2ZWUtOWE4Ny00YmI3LWI1OTctOWNjNWE2YTVmYWNm%40thread.v2/0?context=%7b%22Tid%22%3a%22529343fa-e8c8-419f-ab2e-a70c10038810%22%2c%22Oid%22%3a%22bd7a6aee-b9e7-418f-bbd6-ffa08274fc3%22%7d

Prior to each meeting, the UCCS team will provide an agenda of the action items to be covered during the meeting. Additionally, the UCCS team will provide notes from all the meetings upon completion of the semester.

Signatures**Client:**


KiMar Gartman

9/18/23

Date

Innovation Team:

Marcus Manuel

9/15/23

Marcus Manuel

Date


Meghan Germain

9/15/23

Meghan Germain

Date


Jerrod Dalupan

9/15/23

Date


Jay Polakam

9/15/23

Date

Cannon Hritz

9/15/23

Cannon Hrtiz

Date


Alan Sanchez

9/15/23

Date

Appendix C: Completed Non-Disclosure Agreement

CONFIDENTIALITY AND NONDISCLOSURE AGREEMENT

THIS CONFIDENTIALITY AND NONDISCLOSURE AGREEMENT ("Agreement") is entered into the 25 day of September, between ("COMPANY"), Catalyst Campus for Technology and Innovation, located at 555 E. Pikes Peak Ave. Suite 120. Colorado Springs, CO 80903, and the Regents of the University of Colorado, a body corporate, on behalf of the University of Colorado at Colorado Springs and its Investigators/Students. ("Receiving Party"). Company and Receiving Party are jointly referred to as the "Parties" or separately as a "Party."

RECITALS

A. Parties have or intend to enter into discussions or a separate agreement with respect to a business arrangement regarding: A data analysis project with the goal of identifying trends in the 11 Colorado Springs Accelerator programs as well as best practices, lessons learned, and recommendations for future programming. (the "Project"). In order to discuss and perform the Project, the COMPANY must disclose to Receiving Party certain proprietary, confidential, technical, scientific and other confidential information (as defined in section 1) owned and developed by The Company, all of which the Parties agree is proprietary in nature to the Company.

B. In disclosing the Confidential Information to Receiving Party, the COMPANY is relying on Receiving Party's obligations and promise to comply with all terms and conditions of this Agreement, and COMPANY would not have disclosed the Confidential Information to Receiving Party but for such obligations and promises.

NOW THEREFORE, in consideration of the mutual covenants and agreements contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto mutually agree as follows:

1. **Confidential Information.** The term "Confidential Information" means any proprietary or confidential information that the Company discloses to the Recipient pursuant to the Purpose, either directly or indirectly, and as described below:

Company's Confidential Information: insert description of company confidential information to be disclosed

- Processes, Programming, Curriculum, and Schedule of Catalyst Accelerator that is not public information
- Traction captured by individual companies
- Survey responses by individual companies pertaining to program, SMEs, Sherpas, etc.
- Monthly and Quarterly Reports

2. **Acknowledgment and Obligations of the Receiving Party.** Receiving Party acknowledges and agrees the Confidential Information must remain highly secret and confidential and that the disclosure of the Confidential Information by Receiving Party to anyone not authorized by this Agreement would cause irreparable damage to the COMPANY. In connection with the Project, Receiving Party further acknowledges it may obtain certain written and other forms of information, data, designs, documents, papers, business, financial records, trade secrets, and other information. Confidential Information means any and all such information provided to Receiving Party by COMPANY and clearly marked as "Confidential" or similar legend, or if related orally or visually, identified as Confidential at the time of disclosure and reduced to writing and delivered to Receiving Party within 15 days of disclosure. Therefore, the Receiving Party agrees to:

- a. Obtain and hold the Confidential Information for the sole purpose as may be necessary to perform the Project. Receiving Party agrees that it will protect the confidentiality of all Confidential Information that it receives or of which it becomes aware.
- b. Not copy, manufacture or in any manner duplicate, in whole or in part, the Confidential Information for any person or entity;
- c. Not disclose, transfer or convey the Confidential Information outside of the Receiving Party to any person or entity or disclose to any person or entity the existence of the Confidential Information;
- d. Limit dissemination of and access to the Confidential Information to only those of the Receiving Party's employees who have a need to know in order for Receiving Party to perform the Project;

- e. Deliver all of the Confidential Information, including all copies and records thereof, to COMPANY upon termination of or completion of the Project.

Neither party is bound by the obligations of this Agreement regarding the other party's Confidential Information that is

- a. publicly available prior to the Effective Date;
- b. publicly available after the Effective Date, not due to an unauthorized act by or omission of Recipient;
- c. developed by Recipient independently without access to or use of the Confidential Information;
- d. information that was already in Recipient's possession prior to the time of disclosure as evidenced by written records kept in the ordinary course of business or by proof of actual use; or
- e. required to be disclosed by law, including the Colorado Open Records Act "CORA" (C.R.S. § 24-72-201, et seq.), court order, or government regulation.

In the event Receiving Party determines that it is required by law or regulatory authority having jurisdiction to disclose any of the Confidential Information then Receiving Party shall promptly give written notice thereof to COMPANY and (subject to such law or regulatory authority) permit COMPANY the right to review such disclosure, to obtain a protective order or to terminate any further discussions. Disclosures made under this paragraph shall not otherwise exempt the disclosed Confidential Information from protection under this Agreement.

3. Negation of Licenses. No rights or licenses, express or implied, are hereby, in connection with the Project or otherwise, granted to Receiving Party in connection with, or in any manner related to, the Confidential Information.
4. Each party agrees that the Confidential Information disclosed hereunder MAY BE subject to the export and customs laws and regulations of the US and any other applicable country and shall not export, reexport or transship, directly or indirectly, such information to any country without first obtaining proper governmental approval. Notwithstanding the foregoing, COMPANY represents that, to the best of its knowledge, the Confidential Information provided hereunder is NOT subject to the licensing provisions of the International Traffic In Arms Regulations under 22 CFR §§ 120-130 or the Export Administration Regulations under 15 CFR §§ 730- 774, and the parties agree they will not provide Confidential Information that is subject to such regulations without prior written notice to and advance approval by an authorized representative of the receiving party.
5. Ownership of Confidential Information. Receiving Party acknowledges and agrees that COMPANY is the owner of the Confidential Information and that Receiving Party has no ownership rights or proprietary claims to the Confidential Information.
6. Default. Recipient acknowledges that the disclosure of Confidential Information without the express written consent of the Disclosing Party may result in irreparable harm and that any breach or anticipated breach of any of its covenants contained herein may entitle the Disclosing Party to seek injunctive relief, in addition to any other legal remedies available to it, in any court of competent jurisdiction. No failure or delay by Disclosing Party in exercising any right, power, or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such right, power, or privilege preclude any other or further exercise thereof.
7. Return of Confidential Information. Upon request by COMPANY, Receiving Party shall immediately return to COMPANY all documents, samples, and other materials and information containing or reflecting, in any form, any Confidential Information and will NOT retain any copies, extracts or other reproductions, in whole or in part, of such material. All other documents, memoranda, notes, and other writings or material whatsoever prepared by Receiving Party or its advisors based on or related to the Confidential Information shall be

destroyed and such destruction shall be promptly certified in writing to COMPANY. Receiving Party will continue to be bound by its obligations of confidentiality, as well as its other obligations hereunder.

8. No Press Releases. Receiving Party will not originate any publicity, press releases or other public announcement relating to this Agreement or performance hereunder, without the prior written permission of COMPANY.
9. Resolution of Conflict Between Agreements. To the extent there is any conflict between this Agreement and any agreement or contract evidencing the Project, this Agreement shall prevail.
10. Entire Agreement. This Agreement contains the entire Agreement between the parties with respect to the subject matter hereof [and supersedes any prior agreements or understandings between the parties regarding the subject matter hereof]. There are no other understandings between the parties, oral or written, which in any manner alter or enlarge its terms. This Agreement may be modified only by written instrument executed by all parties hereto.
11. No Default Waiver. No failure or delay by COMPANY in exercising any right, power or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise thereof preclude any other or further exercise thereof or the exercise of any other right, power or privilege hereunder.
12. Further Assurances. Each of the parties shall execute all such further documents and perform such further acts as the other party hereto may reasonably request in order to carry out the effect and purpose of this Agreement.
13. Recitals. The recitals set forth above are incorporated herein and expressly made a part of this Agreement.
14. Governing Law and Venue. This Agreement shall be construed, interpreted and enforced in accordance with the laws of the State of Colorado. The parties agree that the exclusive venue and jurisdiction for any suit or claim arising from this Agreement shall be in the District Court, El Paso County, Colorado,
15. Survival. This Agreement shall terminate upon completion of the Project. The restrictions, obligations and rights set forth in this Agreement shall survive for a period of two years from the date of any expiration, termination or cancellation of this Agreement and completion of the Project, and during such two-year period shall continue to bind Receiving Party, its affiliates, employees, agents, representatives, independent contractors, successors, heirs and assigns .
16. Effective Headings. The paragraph headings used herein are for convenience or reference only and do not define, limit, prescribe or otherwise affect the meaning or scope of any provision hereof.
17. Successors and Assignees. The terms and conditions of this Agreement shall be binding upon and inure to the benefit to the parties hereto, and their respective representatives, advisors, assignees, successors in interest, employees, agents and independent contractors.
18. Severability. In the event that any provision or clause of this Agreement is found to be invalid or unenforceable to any extent, such invalidity or unenforceability shall not affect other provisions of this Agreement, which can be given without the invalid or unenforceable provisions, and to this end, the provisions of this Agreement are declared to be severable.
19. Essence of Time. Time is of the essence of this Agreement and of each of its terms and conditions.
20. Counterparts. This Agreement may be executed in counterparts and each counterpart, when so executed and delivered shall constitute an original instrument, and all such separate counterparts shall constitute one and the same agreement.
21. Notices. All notices to and demands upon the parties, desired or required to be given under any of the provisions hereof, shall be in writing. Any notice or demand shall be deemed to be duly and sufficiently given

if hand-delivered or mailed by United States Registered or Certified mail, postage prepaid, to the applicable parties:

For COMPANY:

KimMar Gartman
Catalyst Accelerator
Catalyst Campus
555 E Pikes Peak Ave, St 120
Colorado Springs, CO 80903

For Receiving Party:

Faculty Name:
Bachelor of Innovation

Client based Team's course

University of Colorado, Colorado Springs
1420 Austin Bluffs Parkway
Colorado Springs, CO 80918

Gwendolyn A. Gennaro
Executive Director, Office of Sponsored Programs and Research Integrity
University of Colorado Colorado Springs
1420 Austin Bluffs Parkway
Colorado Springs, CO 80918

or at such address as either party may furnish by written notice to the other pursuant to this paragraph

In Witness Whereof, the parties have executed this Agreement as of the Effective Date.

COMPANY. Catalyst Campus for Tech & Inn (CCTI)

Regents of the University of Colorado

By KimMar Gartman
insert name of company authorized official signing
KimMar Gartman, Program Director for Catalyst Accelerators

By Gwendolyn A. Logan Gennaro
Gwendolyn A. Logan Gennaro
Executive Director, Office of Sponsored
Programs and Research Integrity

Date September 19, 2023

Date November 1, 2023

As a potential recipient of confidential information, I understand and agree to the provisions of this agreement:

Faculty Name :

Colleen Stiles 9/25/23
Signature Date

Barbara Clementi 9/25/23
Signature Date

Student Name: Colleen Stiles

Student Name: Barbara Clementi

Page 4 of 5 Initialed: CS JP MM CH MG AS KG BC August 2019

Meghan Germain 9/23/23
Signature Date

Student Name: Meghan Germain

[Signature] 9/23/23
Signature Date

Student Name: Jayant Polakam

Cannon Hritz 9/25/23
Signature Date

Student Name: Cannon Hritz

Marcus Manuel 9/23/23
Signature Date

Student Name: Marcus Manuel

Jerrod Dalupn 9/25/23
Signature Date

Student Name: Jerrod Dalupan

Alan Sanchez 9/25/23
Signature Date

Student Name: Alan Sanchez

Appendix D: Power BI Technical Manual

Power BI streamlines the process of connecting to data, transforming and modeling it, creating visualizations, and sharing insights with others. It leverages both desktop and cloud-based components to provide a comprehensive solution for data analysis and reporting in organizations of all sizes. Power BI enables users to turn data into actionable insights, facilitating data-driven decision-making.

Power BI is relevant for data analysis and for companies like catalyst campus because Power BI helps with data visualization and business intelligence. Catalyst campus can use Power BI to seamlessly connect with a diverse range of data sources, including databases, cloud services, spreadsheets, and web applications making their Accelerators run smoother and provide better insights at the end of them. It is useful for data analysis because of the multiple factors it has in the application itself. The visualization, integration, transformation, and self service analytics for all raw data that can be put into this powerful machine. Power BI offers the transformation of data that allows users to clean it up, reshape, or model data as needed, offering nearly endless opportunities to make data easier to read and talk about. There is also the ability to share these documents you are working on with colleagues or shareholders, providing insight for and getting feedback from these people. The final reason why this is the application for companies like catalyst campus and the act of data analysis is scalability. Power BI is designed to handle large datasets and complex reporting requirements, fitting the needs of our team and those of both small businesses and large enterprises.

To start the journey into Power BI, the first thing you will need to do is download the program off the microsoft store or the website to have the desktop version.

Note: We use Power BI desktop version because the website version will not let you upload local files.

- Open a new browser on your computer and type <https://powerbi.microsoft.com> into a new tab
- Navigate to this tab on the website.(Picture Below)



Microsoft Power BI Desktop

With the Power BI Desktop you can visually explore your data through a free-form drag-and-drop canvas, a broad range of modern data visualizations, and an easy-to-use report authoring experience.

[Download >](#)

[Advanced download options >](#)



Microsoft Power BI Mobile

Access your data anywhere, anytime. These native apps provide live, interactive, mobile access to your important business information.



Microsoft on-premises data gateway

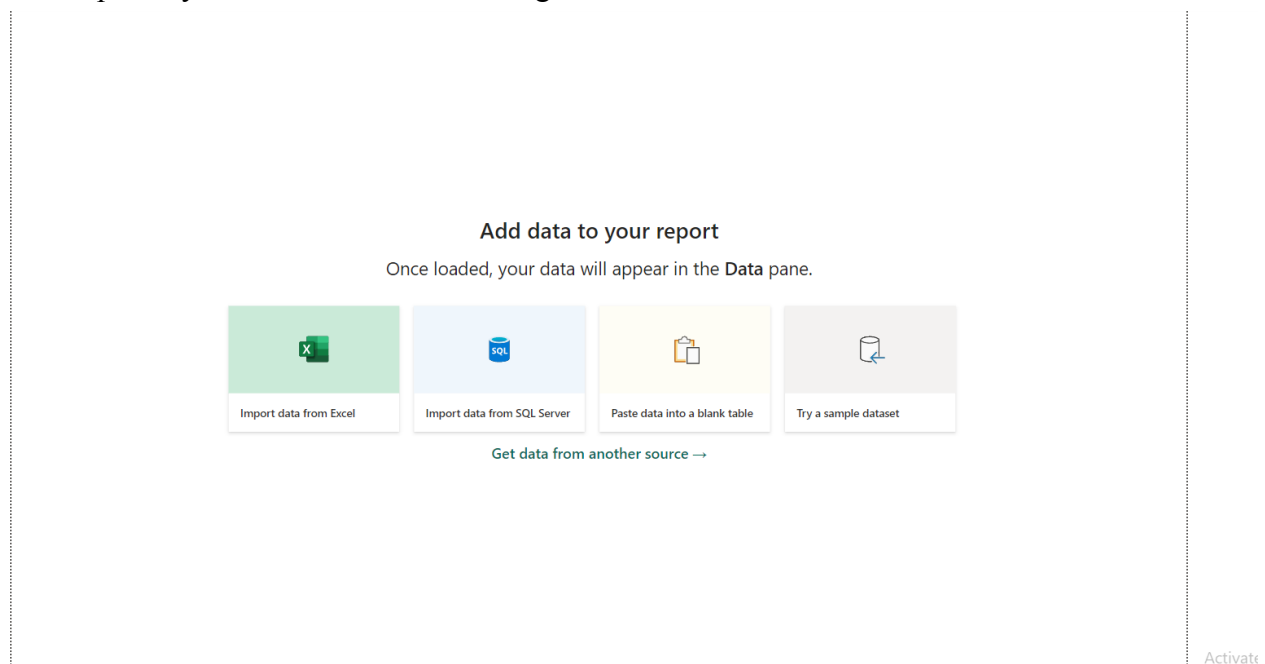
Keep your dashboards and reports up to date by connecting to your on-premises data sources—without the need to move the data.

[Download standard mode >](#)

[Download personal mode >](#)

After the file is being downloaded, run it as an administrator and install it. Then, after installation is complete. Click on the Power BI app to open it.

Once opened you should see the following:



- Click on “Import data from Excel”

Note: Be aware that excels only accept .xlsx or prior versions of it.

- A file explorer window should open and give you access to your local files. Browse the desired file and click enter when done. (This should upload the file into Power BI)
- Once uploaded, a navigator screen will pop up showing you all your tables.
- Check on the boxes on the left of the table’s name following the example of the image below.
- Once the boxes are checked, click load

The screenshot shows the Power BI Navigator window. On the left, under 'Display Options', the file 'Numbers Sheet.xlsx [2]' is listed. Below it, two tables are shown: 'Table_1' and 'Sheet1'. Both have checkboxes next to them, and 'Sheet1' is currently selected. On the right, the 'Sheet1' table is displayed with the following data:

Company Name	How many employees do you have?	Evaluate the pe
Koolock, Inc.	5	
Guidestar Optical Systems, Inc.	7	
AeroLynk	3	
Advanced Radar Company	8	
Orbital Micro Systems	15	
SaraniaSat Inc.	1	
Adaptive Systems LLC	4	
EchoRidge	30	
Nokomis, Inc.	37	
PreTalen	75	
Novaa Ltd	3	
Braxton Technologies, LLC	75	
Third Insight	5	
ColdQuanta	35	
esc Aerospace US LLC	2	
Omnispace	23	
ATLAS Space Operations	26	
Skyloom	21	
Analytical Space	15	
Opterus	10	
Spectral Quantum Technologies, Inc.	3	
Xenesis	10	
Exoterra Imaging	3	

At the bottom right of the window, there are three buttons: 'Load' (highlighted in green), 'Transform Data', and 'Cancel'.

Note: Click on transform data if you want to remove or add new information.

- Once loaded, You should have as the following:

File Home View Table tools Column tools

Get data + workbook Onstage data hub + SQL Server Data Enter data Database Refresh data + Recent sources + Transform Refresh data + Query Manage relationships Relationships New Quick measure measure column table New table Manage roles View as Security Publish

Company Name [X] How many employees do you have? [X] Evaluate the performance of your Commercial Sherpa [X] How useful was the market research? [X] Evaluate the performance of your AI Sherpa [X] How useful was the one-on-one consulting provided by Mul? [X] How useful was the one-on-one consulting provided by Mul? [X]

Search

Sheet1

Approximately how many hours

Company Name

Evaluate the performance of your Commercial Sherpa

Evaluate the performance of your AI Sherpa

How many customer discovery

How many employees do you have

How many of the customer discovery

How many of the customer discovery

How many of the customer discovery

How useful was the market research

How useful was the one-on-one consulting

I would highly recommend this

I would highly recommend this

I would highly recommend this

Table_1

Activate Windows
Go to Settings to activate Windows.

File Sheet1 (66 rows, 66 filtered rows) Column: Evaluate the performance of your Commercial Sherpa. (5 distinct values, 6 filtered distinct values)

Company Name	Evaluate the performance of your Commercial Sherpa	How useful was the market research?	Evaluate the performance of your AI Sherpa	How useful was the one-on-one consulting provided by Mul?
Artemis Corporation	3	3	3	3
CyberCarnegie Technology	13	3	1	3
ARMED Cyber	4	3	2	3
Virus Technology	2	3	3	3
new Aerospace VIL LLC	2			
CloudQuanta	35			
Third Insight	3			
Beacon Technologies	75			
Novas Ltd	3			
ProTales	75			
Novas, Inc.	37			
Echotridge	30			
CTO	2	3	3	3
Syrah Systems	4	3	4	3
Rubel Space Technol	8	3	4	3
Acronetics	10	4	3	3
Elite	4	4	3	3
Cyberpatrol, Inc.	18	3	3	4
Aerlio Inc.	23	3	2	4
Ironwood Cyber	19	3	1	3
Stentium Defense	52	3	2	4
Lumina Space	6	1	2	3
Cloud Space Systems	3	2	4	3
Astracore Western Syst	0	2	2	3
Pragmatic Frontiers	20	3	3	4
Moravia Mission Data	60	3	2	3
LMAD	10	3	3	3
Katalyst Space Technol	12	2	3	4
Quilicura	60	3	3	3
Spectrotron	3	3	3	3
Matchbook AI	36	3	3	3
TurnBook Labs	4	3	4	3
Prospan	7	3	4	3
ZENX	4	3	4	3
Wish Inc.	4	4	4	4
Archangel Lightworks	7	4	4	4
Kayhan Space	17	3	3	3

- you should be free to use all Power BI tools to do graphs, metrics or create data models.

Appendix E: Questions Evaluated in Cumulative Excel Spreadsheet

The cumulative Excel spreadsheet is a culmination of raw post-Accelerator data from all 12 of the Colorado Springs Catalyst Accelerators. Questions from the post-Accelerator surveys were selected based on their repetition across multiple cohorts. The list below encapsulates all questions presented in the cumulative Excel spreadsheet.

1. Accelerator cohort
2. Date
3. Format (in-person, hybrid, or virtual)
4. Company name
5. Company location: City and state or country
6. Company location: National or International
7. Attendee first name
8. Attendee last name
9. Attendee job title
10. Year company was founded
11. How many employees do you have?
12. What level of maturity was your company at the start of the program?
13. Was your company seeking an investment prior to going into the program?
14. Please select the main drivers for participation in the program: (Select all that apply)
15. Did the grant funding play a significant role in your applying to and participating in the Accelerator?
16. Please select the most useful services provided by the program: (Select all that apply)
17. Please select the least useful services provided by the program: (Select all that apply)
18. How much will the overall program affect your business sales cycle with government entities?
19. How much will the overall program affect your business sales cycle with commercial entities?
20. The program exceeded my expectations.
21. Evaluate the performance of your Commercial Sherpa.
22. Evaluate the performance of your AF Sherpa.
23. Evaluate the performance of the Catalyst Accelerator Team to include KiMar, Shae, and _____:
24. How useful was the one-on-one consulting provided by Mo?
25. How useful was the market research?
26. Was the funding from _____ adequate for your participation in the Accelerator?
27. What did you spend the funding on?
28. I would highly recommend this program to pre-revenue enterprises.
29. I would highly recommend this program to post-revenue enterprises.
30. I would highly recommend this program to companies seeking to work with the Department of Defense.

31. I would highly recommend this program to companies seeking to raise capital and prepare for investment.
32. Approximately how many hours did you spend each non-resident week on tasks related to the Catalyst Accelerator program?
33. Did your company or technology pivot at all as a result of program participation?
34. Did your core client profile/ strategy change as a result of program participation?
35. How many companies on the market research report did you reach out to?
36. How many customer discovery interviews did you conduct during the Accelerator program? (DoD & Commercial)
37. How many of the customer discovery contacts do you think might lead to a contract or some sort of funding for your company?
38. How many teaming opportunities have you had or expect to have with current or alumni Accelerator companies?
39. What are your organizational challenges that still remain after completing the Catalyst Accelerator program?
40. Please list at least three recommendations you believe will strengthen the Catalyst Accelerator program:
41. Other comments or program input.

Appendix F: Accelerator Alumni Questionnaire

The Accelerator alumni survey was sent to one contact from 11 of the cohorts excluding the Artificial Intelligence and Machine learning cohort. The questions below were created to gather informative, qualitative data on alumnus Accelerator experiences months or years after their graduation from the program.

1. Aspects of the Catalyst Campus Accelerator program you found to be:
 - a. Most beneficial/effective for your company
 - b. Least beneficial/effective for your company
2. Did the program meet your expectations? Why or why not?
3. How could the Accelerator continue to offer value to you and other alumni?
 - a. What challenges still persist for you and your company?
4. If an Accelerator 2.0 program were to be offered to alumni, what main components would you suggest be included?
5. Please include any other information you feel could benefit our team, and in turn, future alumni.

Additional questions were sent out to responsive members that participated in the Accelerator alumni survey. Those questions include:

1. Did you receive information about the program from catalyst before participating?
2. If so, did the information provided prepare you for the commitment that participating in the Accelerator required? (i.e. scheduling requirements, financial requirements, etc.)?
3. Did you conduct research into what to expect from the program before participation?
4. How could Catalyst better prepare you for the experience?
 - a. Include specific information about the program in a welcome pamphlet.
 - b. Include information about the program in a different format (i.e. video briefing, voice explanation, detailed written packet, etc.)

Responses collected from the survey:

Tom Sheehan - Director of Operations - ISSAC Corp. (est. 2006) 33 Employees - Maturity Post Revenue - Mod-n-Sim Fall 2021

Mr. Sheehan felt that sherpa training could be improved in the survey immediately after the program. In that survey, he also suggested that Catalyst reach out to alumni 8-9 months after program completion. In this survey, he said they get benefits still from open houses and alumni gatherings hosted by Catalyst. In this survey, he mentions that there were some redundant modules for him since his company was more mature than a startup. He did not mention that in the survey after the program. He mentions that he did not know what to expect from the program and was pleasantly surprised with all that was offered.

1. Aspects of the Catalyst Campus Accelerator program you found to be:
 - a. **Most beneficial/effective for your company** – working in a small company you are focused on the micro work you need to survive. This program helped us lift our head to see not only what we are doing but to also see and discuss what others are doing in the same or similar situations. Also the introduction to

multiple companies and other potential customers helped us expand our business in a way we had not been able to previously.

- b. **Least beneficial/effective for your company** – we had been in business a little over a decade when we went through this program. The program is a big help on how to get started for many but we had some “been there done that” experiences that made some of the modules not really pertinent to our point on the business development process. Maybe a program for true startups and a separate one for companies that have been in business for a while might be better – not sure, just a thought.
2. **Did the program meet your expectations? Why or why not?** Not knowing what really to expect, we were going into the program with an open mind with no real expectations. Initially it was hard to wrap my head around what to really expect but I have always been someone who wants to learn. That being said, the program far exceeded my expectations and proved very valuable in the long run.
3. **How could the Accelerator continue to offer value to you and other alumni?** – the open houses and alumni gathering are still providing new opportunities for us which is a definite plus.
 - a. **What challenges still persist for you and your company?** - The biggest issue we have run into along with a few other companies is crossing the valley of death. We had multiple SBIR phase I and II but have not been able to cross into the prime contractor position of a phase III contract. A Prime contract is our goal for getting out from under prime contractor control.
4. **If an Accelerator 2.0 program were to be offered to alumni, what main components would you suggest be included?** – I have thought about this over the weekend but really don’t have any suggestions here.
5. **Please include any other information you feel could benefit our team, and in turn, future alumni.**

Additional Questions

1. **Did you receive information about the program from Catalyst before participating?** No but the owner Tim Jones did all the initial coordination. It was only after he realized what the program was like that he thought I would be a better fit to participate.
2. **If so, did the information provided prepare you for the commitment that participating in the Accelerator required (i.e. scheduling requirements, financial requirements, etc.)?** I don’t know
3. **Did you conduct research into what to expect from the program before participating?** Yes, I read up on the online information which told me mainly about what the Catalyst Campus was about and how it started.
4. **How could Catalyst better prepare you for the experience?**
 1. **Include specific information about the program in a welcome pamphlet.**
 1. I would create a couple of sections specifically geared toward the Catalyst and one towards the participant. i.e. the Catalyst will provide briefings on, we will have speaks that provide, we will be having workshops to, we will

be providing examples of, this sort of thing. Then as a participant (I know some of this was in the documentation) you will be expected to commit x hours daily over x weeks for x months. You will be able to create marketing information for your specific company, learn techniques to better present your company as a viable small business alternative, meet with potential customers, learn how the government funding, contracting and SBIRs programs operate, create a demonstration of your newly developed company profile, etc.

2. **Include information about the program in a different format (i.e. video briefing, voice explanation, detailed written packet, etc.)** Maybe short takes from previous demo videos, briefings, plans etc.

Hira Virdee - CEO - Lumi Space (Est. 2018) 6 Employees - Maturity Pilot - In Space Domain Awareness Fall 2022

In the survey immediately after the program, Hira rated the commercial sherpa as a 1, not helpful. He said that introductions were only obtained through the commercial sherpas and that “several of them did not provide much if any value”. In that survey, he said the program exceeded his expectations. In this survey, he mentioned being interested in receiving continuing information about opportunities and areas of interest. Being in the International Cohort, his expenses were very great. He never mentioned that aside from listing his expenses which were quite large.

1. Aspects of the Catalyst Campus Accelerator program you found to be:

a. Most beneficial/effective for your company

Direct exposure to the relevant USAF/USSF customers and warfighters to validate some of our business propositions

The high-pace environment at the campus enabling us to work together with other cohort companies to find solutions

a.

b. Least beneficial/effective for your company

Not really related to the program but it was frustrating that all direct commercial engagements were limited to US companies

a.

2. Did the program meet your expectations? Why or why not?

Absolutely, it met and exceeded my expectations. I would have loved to have done such a program a little earlier in the company journey, but am glad we got to go through it at that stage.

1.

2. How could the Accelerator continue to offer value to you and other alumni?

I'm not sure if this is possible due to the breadth of program themes, but ongoing notification of opportunities and areas of interest would be valuable.

1.

a. What challenges still persist for you and your company?

A major challenge is doing business in the US as a foreign entity. I'm gearing up to set up a US entity to get around this - which is expensive and slow.

a.

2. If an Accelerator 2.0 program were to be offered to alumni, what main components would you suggest be included?

Certainly more of the direct exposure to potential customers and networking opportunities with companies in the local area.

1.

2. Please include any other information you feel could benefit our team, and in turn, future alumni.

The campus/accelerator staff were particularly welcoming - which made it worth flying over the atlantic continuously for! We were treated like family, and that made it a hugely positive experience.

Additional Questions

1. Did you receive information about the program from Catalyst before participating?

Yes - this was great! Particularly being international, it was more seamless than some comparable UK programs I've been on

1.

2. If so, did the information provided prepare you for the commitment that participating in the Accelerator required (i.e. scheduling requirements, financial requirements, etc.)?

Absolutely

1.

2. Did you conduct research into what to expect from the program before participating?

I did. A friend had done a previous program (Richard Johanson / Archangel Lightworks) so I spoke to him and took advice, as well as speaking to other CASDA cohort members

1.

2. How could Catalyst better prepare you for the experience?

- a. Include specific information about the program in a welcome pamphlet.

Not necessary in my view, the information we got was great

a.

- b. Include information about the program in a different format (i.e. video briefing, voice explanation, detailed written packet, etc.)

A written packet would have been helpful e.g. on the scheduled program visitors, but I appreciate that's a moving target and subject to last-minute changes so difficult to get that ahead of time.

David Shaw - Chief Commercialization Officer/Co-Founder - Astrapi Corporation (Est. 2013) 5 Employees - Maturity Pilot - Cyber For Space Apps Fall 2020

He said in his previous survey that the program exceeded his expectations. He said that he audited the program before attending and had very high expectations. He said that they would be happy to be a reference for any company considering participating. He rated his commercial and AF sherpas as 5's for both. He suggested keeping a virtual element when "things open back up". He said that the quality and quantity of speaker was fantastic.

1. Aspects of the Catalyst Campus Accelerator program you found to be:

- a. **Most beneficial/effective your company:** The Astrapi team does not have any direct DoD history. The Catalyst Campus Accelerator (CCA) not only provided key introductions, but more importantly insight for validating the range of Astrapi capabilities for defense use. Those connections and support have enabled Astrapi to close prototyping contracts totaling over \$4 million with support from the USAF Space Systems Command, USSF HQ Space Operations Command, SpOC, and Space Development Agency (SDA).
 - b. **Least beneficial/effective for your company:** Not being in or near Colorado Springs makes it more difficult to stay engaged. Our cohort was during peak lock-down so we did not participate in person. There were some unique positive results but a large negative was not meeting in person. Fortunately, we have made efforts to try and stay engaged and stop by while in town.
2. **Did the program meet your expectations? Why or why not?** We audited one of the cohort pitch days prior to applying, so we had high expectations. The program exceeded our teams' expectations from the beginning to the end. The caliber of the programming, the stakeholders, the sponsors, the staff, and other companies really blew us away. We immediately realized how significant it was to be accepted. The lock down enabled the CCA team to virtually bring in many presenters who may not have had the time to participate in person. As mentioned above, we have leveraged those engagements into several contracts and expect to continue to do so with a growing number of capabilities.
3. **How could the Accelerator continue to offer value to you and other alumni?** The CCA team still hosts virtual and in-person events which we try to participate in. We also have been happy to visit with prospective companies and participate in ad-hoc sessions to answer questions regarding our experience. Perhaps an annual alumni event that includes USSF and USAF, and stakeholder folks? Short company updates? 1:1 sessions?
 - a. **What challenges still persist for you and your company?** Identifying transition programs and bridging from prototype projects into program funding is a challenge. The obvious issue is the brakes are put on development programs if there is no funding. Consolidation of prime contractors over the years exacerbates the challenge. This problem also makes it difficult to raise external funds as institutional investors want a predictable (reasonable) cash-flow. These are not unique to Astrapi and AFWERX and others are working to reduce those challenges.
4. **If an Accelerator 2.0 program were to be offered to alumni, what main components would you suggest be included?** See 3a. above. Another would be to figure out a way to address the classification challenges. We do not have security clearances and that limits our visibility into programs we are reasonably confident we can address.
5. **Please include any other information you feel could benefit our team, and in turn, future alumni.** Road shows, or off-site meetings to coincide with major conferences like the Space Enterprise Consortium General Membership Meeting/AFCEA Space Industry Days, SATELLITE 202X, MilSAT and SmallSAT 202X, etc.

John Beane - CEO - MemComputing Inc. (Est. 2016) 7 Employees - Maturity Post Revenue - ISR Fall 2019

He said in his previous survey that the program exceeded his expectations but below he said he had no expectations. He rated his commercial sherpa at a 5 but his AF sherpa at a 2 (same as below). He said the AF sherpa attended a few meetings with him, said little to nothing, and had zero follow-up. He said this sherpa didn't attend any offsite calls. He suggested that the program help with developing an investor deck in addition with a Pitch Deck and 1:1's with VC's to critique the deck. He was also willing to talk with potential future cohort participants. Below he suggests many things Catalyst could do for alumni. They could offer SBAA and SBIR templates specific to currently released topics, even post-accelerator. A regular email containing government innovation opportunities and a Google doc recording each of these things and accessible to alumni.

1. Aspects of the Catalyst Campus Accelerator program you found to be:

- a. **Most beneficial/effective for your company:** First of all, the whole program was beneficial. It opened a new world for us about the potential to work with the government. We were unaware of SBIRs and how, with the USAF Open SBIRs, they were truly supporting new technology like ours. There were lots of business folks that presented to us. Most all were beneficial. The most beneficial I expected to be the least, and that was the one on the R&D Tax Credit. We definitely got some money back.
- b. **Least beneficial/effective for your company** I have to say that our USAF Sherpa was useless. He would attend meetings we had with firms and others and was a bump on a log. He never contributed and never made introductions. However, the female Sherpa, I forget her name, I am sorry, actually was very helpful, even though she was not our Sherpa. My comment on this is that the Sherpa's were young Lieutenants. Let's face it, they have not had much of a career, don't have many connections, etc. A more useful Sherpas would be some retired Lt. Col's.
2. **Did the program meet your expectations? Why or why not?** I had no expectations, and was blown away by the benefit.
3. **How could the Accelerator continue to offer value to you and other alumni?** Not sure. I think they have their hands full.
 - a. **What challenges still persist for you and your company?** We're caught in the valley of death with the government. Actually, that is how the Catalyst could help. The DoDo desperately needs a catalyst that chaperones companies from Phase II to Phase III. It should start half way through a Phase II, if the technology is meeting expectations, then immediately start to identify potential Phase III customers, get meetings, have potential phase III customers then attend Phase II standing meetings so that the potential customer will see the continued progress and hopefully will begin preparation for a Phase III.
4. **If an Accelerator 2.0 program were to be offered to alumni, what main components would you suggest be included?** 3 things: 1) Support navigating the valley of death, 2) Funding and support to meet NIST and other computer/network regulations, 3) Sponsor companies so they can get initial clearances.
5. **Please include any other information you feel could benefit our team, and in turn, future alumni.** Comparatively, we also were part of the NSIN Propel Accelerator for the Pac Fleet. There are a number of things they provide that were and are very helpful. 1) They had a booth at a Pac Fleet conference and each cohort had a spot. They also had slot

where each cohort pitched to the audience. 2) They provide LoS's for SBIRs (even post accelerator). 3) They provide SBIR and BAA templates specific to currently released topics (even post accelerator). 4) They send a weekly email announcing all potential government innovation opportunities, and keep a Google doc up to date with these opportunities (SBIRs & BAAs).

Comparing and considering our process, I knew nothing, expected nothing, from the Catalyst Accelerator. They opened up a new world for me. I couldn't spell SBIR prior. They introduced us to the AFWERX Open SBIRs, and our hands were full for the next couple of years navigating and learning about those. For us, NSIN propel came at a time when we were experienced with AFWERX SBIRs, so opening the world the rest of the way and introducing SBIRs and BAA from all DoD aspects was the right speed for us. We have applied for many but have yet to receive an SBIR or BAA from any other government agencies. The NSIN Propel accelerator may be an accelerator 1.5.

So, no dig on the Catalyst at all. We would not be where we are today without their education and assistance. I just wanted to share some of the pros of another related program. I also applied for another Air Force accelerator out of Hanscom. We weren't selected, but I would love to attend every damn DoD accelerator program until we have at least one Phase III. They all have benefits.

One last thing, we were very fortunately selected for an ABMS contract. The contract stipulates it is for a maximum of \$950,000,000.00!!!! Basically, we are a pre-approved vendor. However, my impression is that they really don't know how to now take advantage of their own program. They keep sending out RFIs that make absolutely no sense. It is like they have a McKesson or someone trying to define an "ultimate" fully integrated system. But the description and expectations make no sense. I have seen this before with other companies. They try to tell you the solutions they need. Instead, they need to educate you on the problems they have. Experienced companies and people can then provide ideas and proposals on how best to solve these problems. Further, ABMS also seems to want to companies to work together. That is probably fine for the big companies they have selected, that have liaison resources and commonly work together. However, they selected many startups. We don't have the resources to learn what other ABMS companies do and how we might work together on an RFI and maybe get somewhere. Now, if you created a catalyst program that brings together the ABMS approved companies and then brought these people from the ABMS that are sending out these RFIs in front of them for brainstorming sessions, it would greatly serve the DoD. Note that our ABMS contract is specifically with the Air Force, who you serve. So, you would not be stepping on the feet of the other entities.

Additional Questions

1. Did you receive information about the program from Catalyst before participating? Yes.
2. If so, did the information provided prepare you for the commitment that participating in the Accelerator required (i.e. scheduling requirements, financial requirements, etc.)? Yes.

3. Did you conduct research into what to expect from the program before participating? Not really.
4. How could Catalyst better prepare you for the experience? I don't think they needed to. What they provided was sufficient. We understood our commitment.
 - a. Include specific information about the program in a welcome pamphlet.
 - b. Include information about the program in a different format (i.e. video briefing, voice explanation, detailed written packet, etc.)

Jayson Denney Positioning Navigation Timing Fall 2018 Cold Quanta

1. Aspects of the Catalyst Campus Accelerator program you found to be:
 1. Most beneficial/effective for your company – Face to face interaction with potential government customers as well as current government suppliers.
 2. Least beneficial/effective for your company – As we were already an established government R&D contractor the foundational business aspects were less useful, that said, I believe those same aspects could make or break newer companies.
2. Did the program meet your expectations? Why or why not? – I went into the accelerator not knowing what to expect and was pleasantly surprised with all of the planned interactions and well planned training material.
3. How could the Accelerator continue to offer value to you and other alumni? – There can never be enough opportunities to do business development. Hosting events up the front range would engage us more and bring in more and different participants (Denver, Boulder, ect)
 1. What challenges still persist for you and your company? – Even though we have been very successful in VC fund raising (>\$200M) and continuing to win larger development projects, we still struggle with the large investment needed to commercialize quantum atomic devices and get into programs of record. We now have a lobbyist presents in DC which is something we had to learn on our own. This was necessary in an effort to direct government R&D funding for Quantum, outside of the SBIR and DARPA world, away from large Primes (ex. Honeywell) and industry giants (ex. Alphabet) to a business of our size. We are bringing three products to market this year, but had to develop most of this technology on dilutive VC funding.
4. If an Accelerator 2.0 program were to be offered to alumni, what main components would you suggest be included? – Growing an organization, this would include the things to consider and plan for when going from a small/tiny business < 80 people to hundreds of people and more. Other experts could include training on expanding manufacturing from low volume to high volume, growing from home grown data to ERP systems and how to prepare, how to set up larger company organization for continued growth, Communication best practices and skills at larger organizations, organizing for IPO, organizing for international expansion, best practices and experiences working internationally. And all of the other thing I don't know that I don't know.
5. Please include any other information you feel could benefit our team, and in turn, future alumni.

Jennifer Halford Data Fusion Spring 2020 Caliola Engineering, LLC**1. Aspects of the Catalyst Campus Accelerator program you found to be:****1. Most beneficial/effective for your company**

Facilitated customer discovery process with introductions

Introduction to advisors who can help my company scale

Small monetary payout to help cover program and travel costs

2. Least beneficial/effective for your company

Meetings with the primes. I felt like it was a 1 way exchange where they would learn about our great ideas and then nothing would happen.

2. Did the program meet your expectations? Why or why not?

Absolutely. It helped to put our company on the map. The facilitated process of customer discovery with introductions and accountability helped us to come up with 2 STRONG concepts for our technology – we converted that in to 2 pitch day wins - \$3.4M.

3. How could the Accelerator continue to offer value to you and other alumni?

Alumni program that would give a second chance. There weren't pitch days in 2023 and now we have a funding issue.

1. What challenges still persist for you and your company?

Getting more traction on our SBIR technologies. We need warmer introductions and better advisors to get us to the next step. Having the SBIR is great, but then we get stuck. We are still having issues getting signed MOUs. The accelerator program went by so fast that we couldn't get enough out of it, plus COVID hit in the middle of our cohort. It would be VERY useful to do it again, but focusing on getting traction and funding beyond the SBIR program through proven processes and facilitated customer discovery.

4. If an Accelerator 2.0 program were to be offered to alumni, what main components would you suggest be included?

N/A

Honorable Sue Payton, former United States Assistant Secretary of the Air Force (Acquisition)**1. What is your role at Catalyst?**

As a former Assistant Secretary of the Air Force for Acquisition and almost eight years serving in senior Pentagon leadership roles, I am a Catalyst Accelerator Subject Matter Expert in weapon systems acquisition, innovation transition to operations and how small non-traditional companies can better understand and meet Department of Defense needs for innovative

capabilities. With over 30 years in the aerospace industry, I also provide commercial companies, unfamiliar with the space challenges the US faces from our adversary, insight into the threats our space and ground assets face and how their capabilities could help counter the threats. I am also a member of the Board of Directors of the Catalyst Campus for Technology and Innovation which hosts the Catalyst Accelerator.

How long have you been with the company?

I have been supporting the Catalyst Campus since 2015

2. Why do you think the Catalyst Accelerator program is important?

The Catalyst Accelerator is sponsored by the Air Force Research Lab and each Accelerator is focused on critical areas of Space Force and Department of the Air Force need. The Accelerator brings together some of the most innovative companies in the area being investigated and helps those companies understand how to do business with the government, and provides access to government customers who have needs for improved capabilities. Catalyst companies complete the Accelerator with a much better understanding of where their capabilities are needed and generally have the tools and knowledge to grow their businesses. The April 2023 Economic Impact Study provides the following metrics of the value of the Accelerator based on 65 alumni companies surveyed from 9 cohorts in 2022:

- 11 total cohorts-10 in Colorado Springs and 1 in Ogden
- 86 total alumni companies
- 1,348 jobs created
- \$113.5M estimated impact of jobs created by alumni companies
- 353 follow-on contracts
 - 272 with DoD-202 with AF/SF and 70 Other DoD
 - 22 with Federal Government other than DoD
 - 59 Non-federal to include state and foreign governments
- \$284M follow-on funding from contracts won
 - \$233M with DoD--\$141.4M with AF/SF and \$92M with other DoD
 - \$17M with Federal, not DoD
 - \$34M with Non-federal int include state and foreign governments
- \$243.1M private investment funds secured
- 28 companies expanded their office space
- 18 companies opened new offices
- \$4.7M has been spent on capital improvements by alumni companies
- 210 new customers-76 Government, 134 Commercial
- 72 new licenses/products sold-35 Government, 37 Commercial
- 8 alumni companies were acquired
- 2 alumni companies acquired other companies
- 43 sponsors-financial and in-kind
- \$781K in sponsorship funds

3. What is the most effective part of the program?

The Accelerator culminating in a Demo Day, attended by government stakeholders, private investors and potential industry partners, where each cohort company "sells" the value they can bring to solving real world problems our nation faces is a very effective way to showcase participants growth and readiness to do business!

4. Which part of the program needs the most attention and why?

While AFRL has been a dependable and supportive government sponsor of the Catalyst Accelerator and NRL teamed up with them on the last cohort, the Catalyst Accelerator needs multiple sponsors in order to insure stable funding and growth. CCTI has the facility and capacity to do much more in this realm. Secondly, as a Partnership Intermediary, the Catalyst Accelerator should be more tightly linked to the SpEC OTA and other OTAs to facilitate requirements definition and concept of operations development to more rapidly transition innovation into operations.

a. What can be done to improve this part of the program?

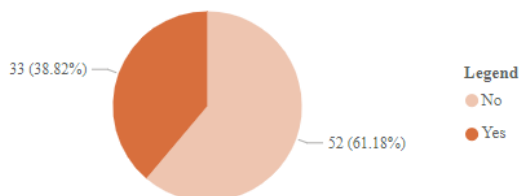
Members of the Catalyst Accelerator and CCTI leadership should brainstorm with the CyberWorx team using human centered design thinking methodologies to attract potential new sponsors for the Accelerator and better market the metrics achieved as documented in the April 2023 Economic Impact Report. The new Commander of the Air Force Research Lab, BG Scott Cain and the Executive Director should be briefed by Catalyst Accelerator leadership and should request more support from additional Directorates at AFRL. The same should be done with NRL, ONR, ONI, ARL, Army Futures Command etc.

Appendix G: All Graphics Produced

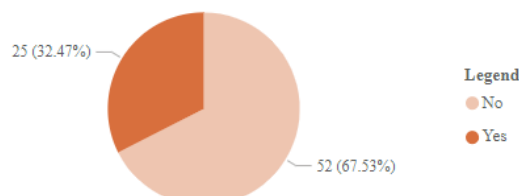
The graphics below include all graphs and charts created for the analysis. Most charts and graphs were used in the analysis but a select few were not included in the report.

Note for KiMar and team: all Graphs/Charts and raw data can be accessed through the PowerBI file in the sharepoint.

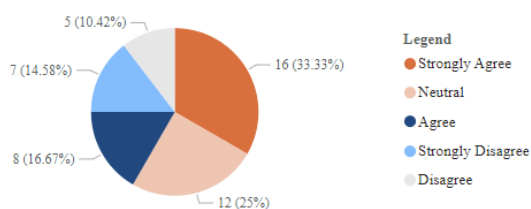
Did your company or technology pivot at all as a result of program participation?



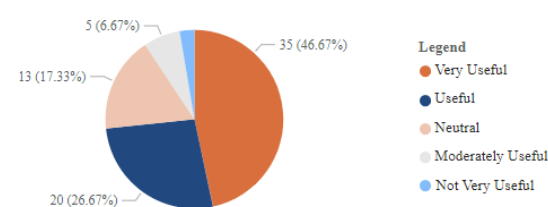
Did your core client profile/ strategy change as a result of program participation?



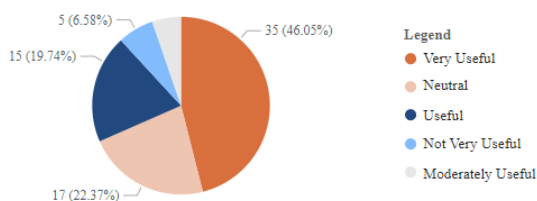
Did the grant funding play a significant role in your applying to and participating in the Accelerator?



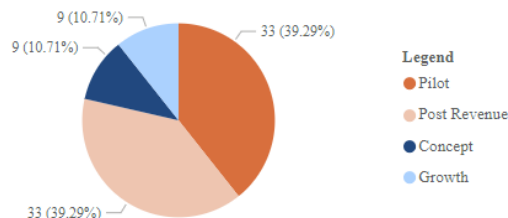
Evaluate the performance of your AF Sherpa.



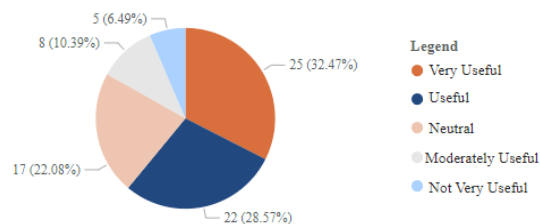
Evaluate the performance of your Commercial Sherpa.



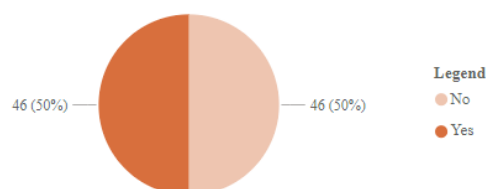
What level of maturity was your company at the start of the program?



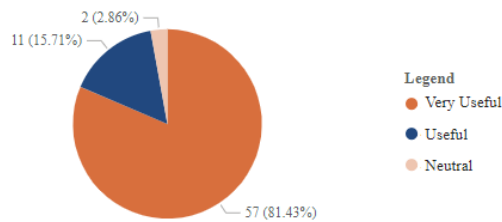
How useful was the market research?



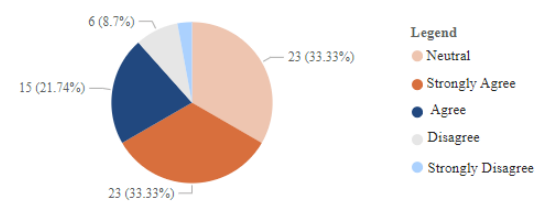
Was your company seeking an investment prior to going into the program?



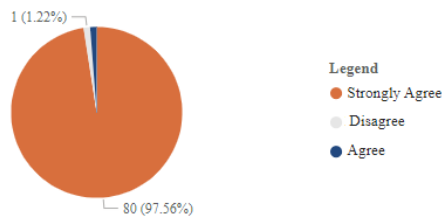
How useful was the one-on-one consulting provided by Mo?



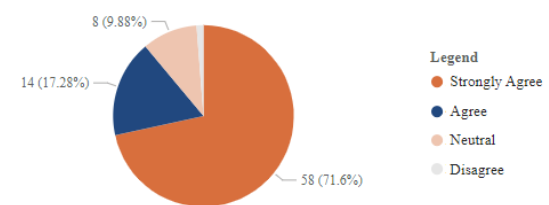
I would highly recommend this program to companies seeking to raise capital and prepare for investment.



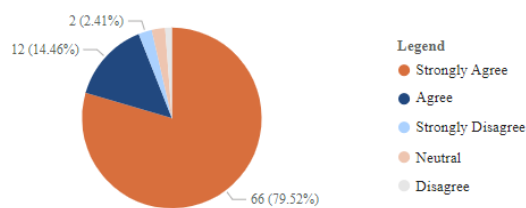
I would highly recommend this program to companies seeking to work with the Department of Defense.



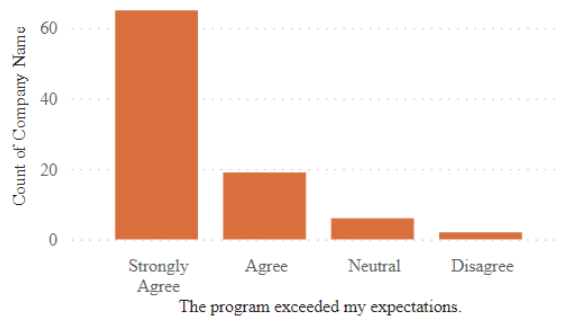
I would highly recommend this program to post-revenue enterprises.



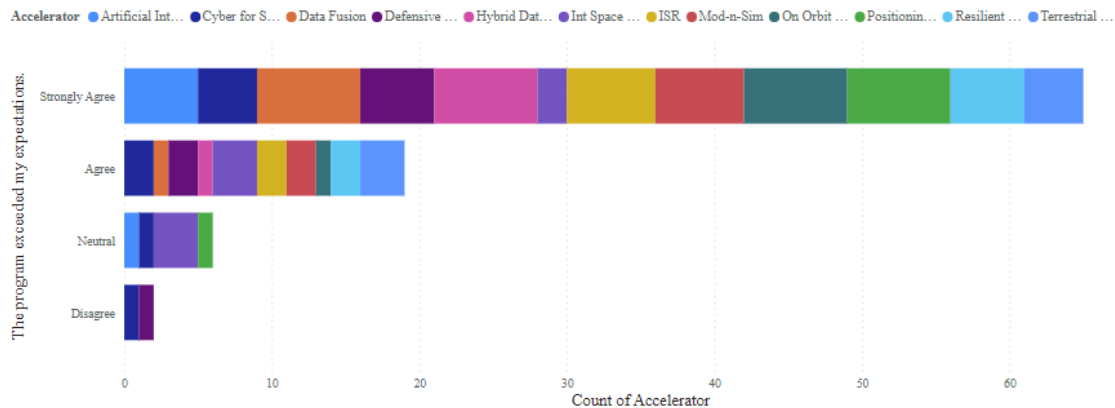
I would highly recommend this program to pre-revenue enterprises.



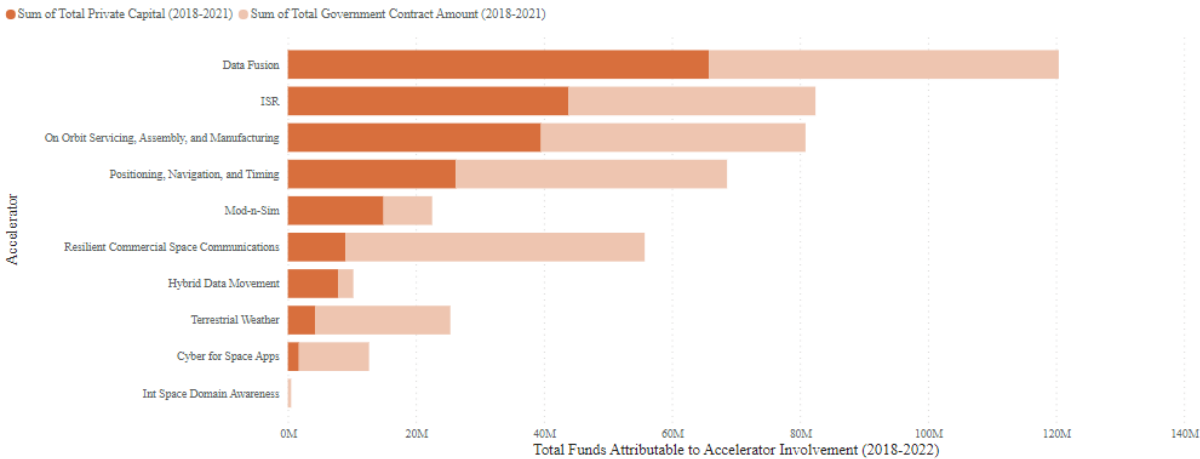
The program exceeded my expectations.



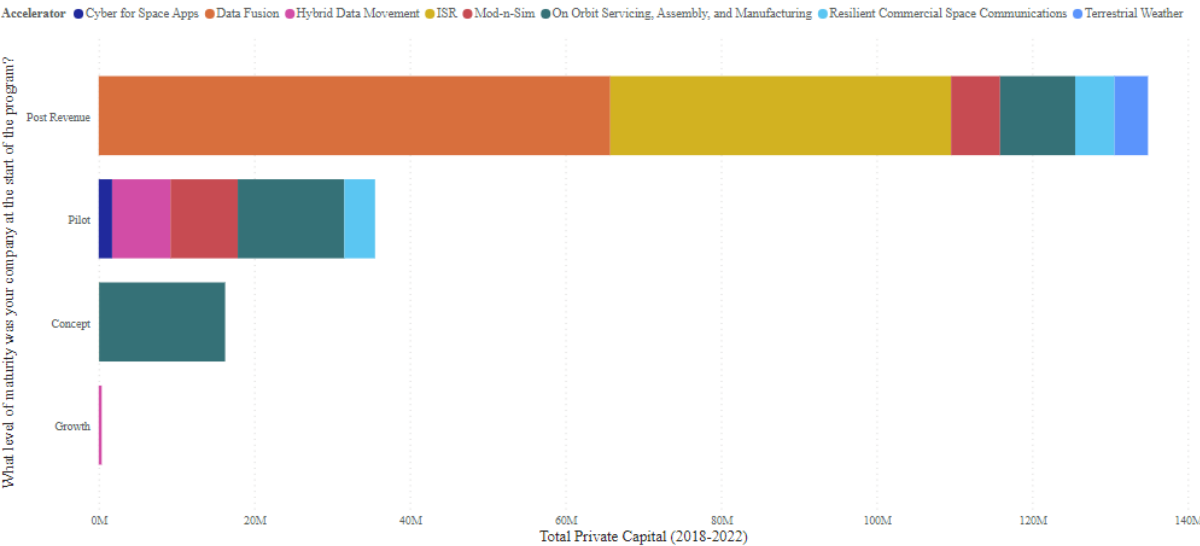
The program exceeded my expectations.

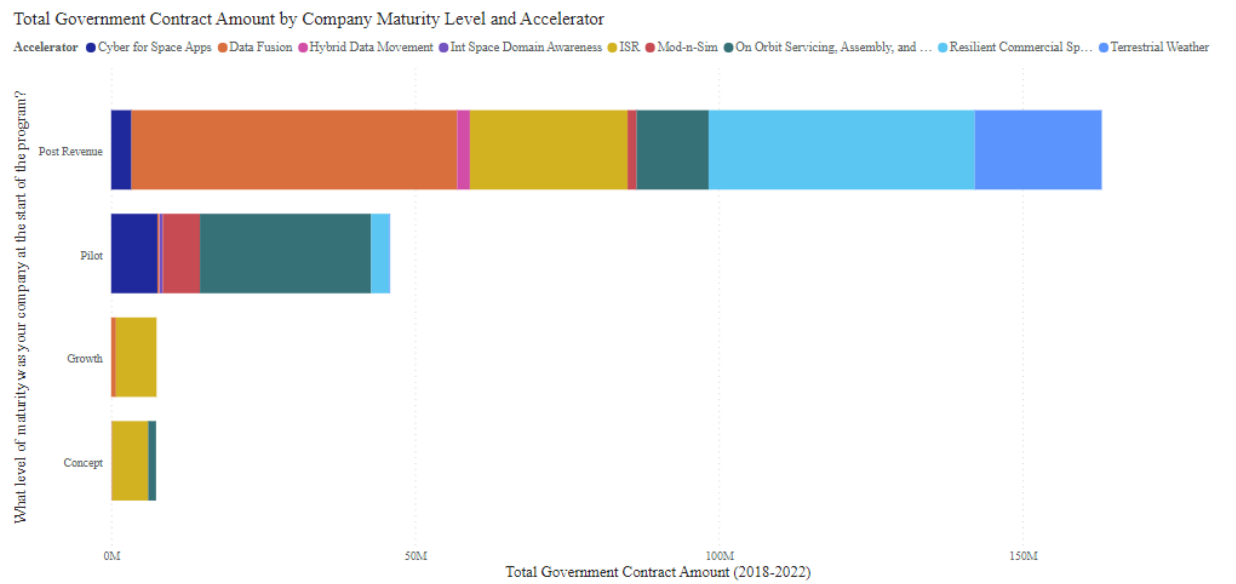


Funds Attributable to Accelerator Involvement by Company Maturity Level and Accelerator



Total Private Capital by Company Maturity Level and Accelerator





Appendix H: Key Contacts

This document lists all key contacts used during the research portion of this report.

Contact Name and Position	Contact Information
KiMar Gartman Catalyst Accelerator Program Director	kimar.gartman@catalystcampus.org (701)500-5469
Shae Thomas Catalyst Accelerator Program Facilitator	shae.thomas@catalystcampus.org (719)465-7556
Allison Boothe Catalyst Accelerator Program Coordinator	allison.boothe@catalystcampus.org
Aaron Ressler Advanced Industries Partnership Liaison	aressler2@uccs.edu (719)255-8128
Mo Kanwischer Chief Consultant at Catalyst Accelerator	mo@momentumbc.com (303)946-9533
Gregg Walsh Commercial Sherpa at Catalyst Accelerator	gregg.walsh@twosixtech.com
Lauren Hunt AFRL/RV Deputy Program Manager of Space Force Accelerators	lauren@afrlnewmexico.com
Sue Payton Board Member at Catalyst Campus for Technology and Innovation and an Advisor for the Catalyst Accelerator	sue.payton@sci-aero.com (703)955-0836
Shannon Cambra Catalyst Accelerator contact at Lockheed Martin	shannon.m.cambra@lmco.com
Tom George CEO at SaraniaSat Inc. (Terrestrial Weather cohort)	tom.george@saraniasat.com
Jayson Denney Government Program Manager at ColdQuanta (PNT cohort)	jayson.denney@inflection.com
Campbell Marshall Vice President, International Market Development & Public Policy at Omnispace	campbell@skyloom.co

(Resilient Space Communications cohort)	
John Beane CEO at MemComputing, Inc. (ISR cohort)	jbeane@memcpu.com
Jennifer Halford President at Caliola Engineering, LLC. (Data Fusion for Space Apps)	jennifer.halford@caliola.com
David Shaw Co-founder/CCO at Astrapi Corporation (Cyber for Space Apps cohort)	dshaw@astrapi-corp.com (214)718-0325
Vanessa Clark CEO at Atomos Space (On-Orbit Servicing, Assembly, and Manufacturing cohort)	vanessa@atomosspace.com
William Kowalski Co-founder/COO at Atomos Space (On-Orbit Servicing, Assembly, and Manufacturing cohort)	william@atomosspace.com
Tom Sheehan Director of Operations at ISSAC, LLC. (Mod and Sim cohort)	tom.sheehan@issaccorp.com (719)205-3492
Ryan Cousins CEO at KRTKL, Inc. (Hybrid Data Movement cohort)	cousins@krtkl.com
Hira Virdee CEO at Lumi Space (SDA cohort)	hira@lumi.space
Lawrence Nunn CEO at Cyber Spatial, Inc. (Defensive Cyber Operations cohort)	ln@cyberspatial.com

Appendix I: Meeting Minutes

Catalyst Campus

Meeting Minutes

Date 9/15/23

Opening:

When meeting was called to order, where it is being held, and who called it to order

- The meeting started at 2:30 pm
- The meeting took place in the Railyard Room at the Catalyst Campus Technology and Innovation Center located at 555 E Pikes Peak Ave Suite 120 in downtown Colorado Springs.
- KiMar Gartman called the meeting to order

Present:

All present members

- KiMar Gartman
- Shae Thomas
- Allison Boothe

- Meghan Germain
- Marcus Manuel
- Jay Polakam
- Cannon Hritz
- Jerrod Dalupan

Absent:

Any members that were not present

- Alan Sanchez

New Business

Any topics that were raised for the first time at this meeting, a brief description of what took place

- Introduction to the Catalyst Campus program
- Possible trends to identify
 - o Difference between Covid Virtual Catalyst Campus programs and in-person ones
 - 2 Covid programs: Cyber for Space and OOSAM
 - Company performance or financial impact after the program
 - Company satisfaction or their rating of the program
 - o Financial impact after the Accelerator compared to their tech readiness level before
 - o Improved/decreased satisfaction after bias in the survey was eliminated
 - o Those seeking funding before Accelerator and satisfaction level
 - o Size of company (e.g. 25-250 employees) vs. satisfaction level

- Try to facilitate investors for companies without losing focus on the main goal of the program
- October 19th Happy Hour 3-6 pm
- Pre-presentation December 4th
- Presentation December 7th
- Catalyst Campus Accelerator dates
 - o October 17-25
 - o November 7-10

Additions to the Agenda:

Any additional items that were raised by the committee members.

Adjournment

What time the meeting was adjourned and by whom, as well as where the meeting will be held and when.

- The meeting ended at 3:45 pm
- It was adjourned by KiMar Gartman
- Future meetings will be held every other week on Mondays at 12:30 pm starting October 2nd

Catalyst Campus

Meeting Minutes

2 October 2023

Opening:

When the meeting was called to order, where it is being held, and who called it to order

- The meeting started at 12:30 pm
- The meeting took place at Library Video Conference Room 213 located at the University of Colorado-Colorado Springs

Present:

All present members

- Shae Thomas
- Meghan Germain
- Jay Polakam
- Cannon Hritz
- Jerrod Dalupan
- Alan Sanchez

Absent:

Any members who were not present

- Marcus Manuel

New Business

Any topics that were raised for the first time at this meeting, a brief description of what took place

Talked about getting contacts connected with UCCS team.

Shae will “warm intro” us into multiple contacts throughout the 11 cohorts

CC’s everyone on email so that we will be able to respond with questions that are good to ask contacts

If they do not respond within the first week, they will be pinged and after the 2nd week, will move to another contact within the same cohort.

Additions to the Agenda:

Any additional items that were raised by the committee members.

Adjournment

What time the meeting was adjourned and by whom, as well as where the meeting will be held and when.

- The meeting ended at 12:50 pm
- It was adjourned by Meghan Germain
- Future meetings will be held every other week on Mondays at 12:30 pm

Is there any company that had increased success or failure as a result of the catalyst project

Catalyst Campus

Meeting Minutes

16 October 2023

Opening:

When meeting was called to order, where it is being held, and who called it to order

- Library 213
- Start 12:29

Present:

All present members

- yes

Absent:

Any members that were not present

- no

New Business

Any topics that were raised for the first time at this meeting, a brief description of what took place

- Going into experience an accelerator and which days work the best, 8:30- 1~
- Happy hour 3:15-5:30
- Trying not to add bias
- Some bias has already happened just by whom was selected to talk to
- Connection points being pointed out in the discussion of the report

Additions to the Agenda:

Any additional items that were raised by the committee members.

- How to get replies from past accelerator participants, 5/11 responses gathered
- Format for the end report
- An executive summary from the report

Adjournment

What time the meeting was adjourned and by whom, as well as where the meeting will be held and when.

- 1:05

Catalyst Campus

Meeting Minutes

10/30/2023

Opening:

Meghan has called the meeting to order, and the meeting is being held in a Teams meeting where the BI team meets up in library room 213 at University of Colorado Colorado Springs.

Present:

All present members

Meghan Germain, Jay Polakam, Jerrod Dalupan, Marcus Manuel & Alan Sanchez

Absent:

Any members that were not present:

Cannon Hritz

New Business

Company-level economic impact information:

Not easy to read, the catalyst is working to make it easy to read. They have started to work on it but haven't finished it.

November accelerator:

will share the calendar with new updates with networking companies coming such as Bluestack from Tuesday 7th 9 to 11. The calendar and networking events can change. The team was invited to a tour of the JCO at 9:45 which will talk about space awareness and the importance and what they are doing in their establishment. The 9th is not a good day to come in since there will be exec meetings.

Demo Day:

couple speaker one coming from LA and a navy person. Each company will have a pitch to introduce their company and release everyone to networking. The companies will have their own booth such as a career fair and a lot of fun and food. Cohort demo day is on Monday and be there to watch the demo day video. The team can get information from the demo day.

Update from the emails from the cohorts:

all companies have responded except one.

Any updates for the final presentation?

Clarity for us until the end of this week or next week. Time is still in the works.

Guests?

Who from uccs will we invite? They need to know so they can prepare for extra people.

Have a discussion with the catalyst to give a taste of our report

Trends:

The team gave an update to the catalyst team about the trends and the correlation of what is useful, and not useful, and what they used. Also, time response differences among the cohorts .

Correlation for cohort working off week and what is their success?

traveling companies:

international companies is not an easy feat for them because they work a lot because of the different time zones.

Additions to the Agenda:

Expectations?

the companies didn't know what to expect. The components that they didn't expect were the connections that they made such as happy hours and talking to others. Where there is a correlation between what they want and what they get.

A major change is that the post-accelerator is intense, and the catalyst paid a presenter to watch a video to explain the intensity and how hard commitment the program is. (Check the website to check the recording of the MAM. Where they explain the program and have questions before they get into the program.) Watch the video of the expectation of the accelerator and compare it with the feedback of expectations.

Any additional items that were raised by the committee members.

Any NIST or any compliances?

that happened on Wednesday last week. The catalyst offered to introduce us to the people from the meeting.

Do they do the Valley of the dead?

the whole program is a government program that they are trying to solve and help them. They are trying to figure it out with the BI team report

Are there more COVID presenters as the same as in person?

Same amount

Changes that catalyst team along the way? When were they made? Correlations?

The box contains all the information and the changes that might happen for all cohorts. They put the notes in the box. The catalyst has feedback but can't make changes because of the curriculum legalities with the government and other companies. The catalyst suggested getting the power to make these changes but was denied. The modenc, Shae is the facilitator.

Shae is the program facilitator and the chief consultant, and they split those roles because they were paying quite a bit to Mo. They had Mo as the facilitator. Mo helps companies be able to tell other people why they do so other people can be able to understand it. Teach how to make a good speech and pitch and When to buy something.

What changes were made to the program based on the feedback?

The major decisions were facilitated through the cohorts. After the space comm cohorts up to that point, the programming will be in the morning and then the afternoon and there was not a rhyme and reason and the changes were made to start in the morning at 8:30. Videos for the demo thing were not a thing. They used to do it in person with multiple pitches and it took a long time because 8 pitches had 8 minutes and at the end, nobody wanted to talk to anybody. Spring 2020. There are choices and changes constantly and the catalyst thinks they have a record of when they make those changes in the recommendations sections when moving forward and that might be a good place to find them.

Are any major changes transitioning from covid to person?

just the videos are the biggest one. Also, people are pushing to be a virtual accelerator but the catalyst reject the idea because the value in a one-on-one outweighs the virtual networking because they want to see the connections among the people.

Any sig changes to the Sherpas along the way??

Tried to do the international SDA commercial cohort model and a team of sherpas will work with companies but it flopped. The ratings on the international cohort were different from the American rating. The impact of different cultures was significant in the rating because internationals had different aspects of the rating against the Americans. The catalyst would like to know if they separate the international and the American the different sherpas will have different scores.

is there any anonymous feedback?

Hot washes after demo day, last day of the accelerator and different cohorts gave their opinion and changed from specific feedback to broad feedback questions. Anonymous feedback the catalyst is hanging pieces of paper with anonymous companies people will give feedback on sticky notes and they make that change because of a suggestion from SDA because of a cultural difference. Questions like what went well in the cohort, and what could be better? The live

feedback is only on demo day.

The catalyst team has a file containing the feedback for cyber.

Live feedback a day after demo day at 10:30. They are hoping for an accelerator survey and hoping to see it by Friday but have it for sure the following Tuesday.

The same companies will be presenting.

The team would try to have time to have a discussion and talk deeper about the program after the 7th. Time is still undefined.

Adjournment

The meeting was adjourned at 1:50 pm by Kimar Gartman and the next meeting will be held in teams two weeks from now on at 12:30 pm.

Catalyst Campus

Meeting Minutes

13 November 2023

Opening:

When meeting was called to order, where it is being held, and who called it to order

- 12:30 PM in KFL room 213

Present:

All present members

- KiMar Gatman
- Shae Thomas
- Allison Boothe

- Meghan Germain
- Marcus Manuel
- Alan Sanchez
- Jerrod Dalupan
- Jay Polakam
- Cannon Hritz

Absent:

Any members that were not present

- N/A

New Business

Any topics that were raised for the first time at this meeting, a brief description of what took place

- Type of information stakeholders are most interested in
 - AFRL - whats the successes in the past and where to go in the future
 - Investors - same, trends that point towards future success
 - Board of Directors - All (how much sponsorship was integral to participation)
 - Sherpas - what the successes of the program have been. Future tweeks and suggestions
- Post-Accelerator data for AI/ML has been collected. Note: companies in cohort were not aware of sponsorship when enrolling in program (no financial backing)
- Useful contacts to inquire would be the Sherpa for Lockheed Martin and Sue Payton
- Catalyst Campus team requested to circle back to idea of another BI Team.

Additions to the Agenda:

Any additional items that were raised by the committee members.

- Including data from AI/ML in the analysis
- Contact Lockheed Martin Sherpa and Sue Payton
- Finish final report for submission on November 30th, 2023.

Adjournment

What time the meeting was adjourned and by whom, as well as where the meeting will be held and when.

- Meeting was adjourned at 1:30 PM.

Catalyst Campus

Meeting Minutes

27 November 2023

Opening:

When meeting was called to order, where it is being held, and who called it to order

- 12:30 PM in room 213 at KFL
- Meghan Germain called to order

Present:

All present members

- KiMar Gatman
- Shae Thomas
- Allison Boothe

- Meghan Germain
- Marcus Manuel
- Cannon Hritz
- Alan Sanchez
- Jay Polakam
- Jerrod Dalupan

Absent:

Any members that were not present

- N/A

New Business

Any topics that were raised for the first time at this meeting, a brief description of what took place

- 5 confirmed attendees from UCCS and approximately 25 confirmed attendees overall
- Meetings for 12/1 deep dive review, 12/4 pre-presentation preparation at CCTI, and 12/8 presentation date confirmed.
- Missing information for tables in final report found
 - What is Lauren Hunt's official position title
 - AFRL/RV deputy program manager of space force accelerators
 - What was the amount of seed funding given to the PNT cohort
 - No funding - had to attend as a requirement through SBIR
 - What was the amount of grant funding provided by Microsoft given to the hybrid data movement cohort
 - \$15,000

- Which company provided the finding in the SDA cohort?
 - OneDev
- Follow up on another BI Team application
 - Possible teams for CCTI and Catalyst Accelerator
 - For catalyst accelerator - focus on research for catalyst events possible a community day (combination of research and coordination)

Additions to the Agenda:

Any additional items that were raised by the committee members.

- Email formal invitations to members of the UCCS community that we would like to come to the final presentation.

Adjournment

What time the meeting was adjourned and by whom, as well as where the meeting will be held and when.

- Meeting adjourned at 1:00 PM.

Appendix J: Team Lead Resume: Meghan Germain

Meghan Germain

(720) 582-9247 | mgermain@uccs.edu | <http://www.linkedin.com/in/meghangermain>

Summary

Proactive and collaborative problem-solver with inclusive leadership qualities, currently pursuing a role in Communication, Marketing, or Media. Prioritizes meticulous attention to detail, thoroughness, and aesthetic appeal in all tasks. Thrives on building connections, learning from diverse perspectives, and fostering creativity.

Education

University of Colorado Colorado Springs, Colorado Springs, CO | Anticipated May 2024

Bachelors of Innovation in Digital Media Communication | GPA 3.8 | Dean's List 2020 – 2023

Skills and Coursework

- | | |
|--|---|
| - Adobe Creative Suite | - Integrated Marketing Communication |
| - Canva | - Tech Writing, Proposals & Presentations |
| - Meta Business Suite and Social Sprout | - Intercultural and Global Communication |
| - Business and Intellectual Property Law | - Innovation and Entrepreneurship |
| - Writing for the Media | |

Experience

Social Media and Content Marketing Assistant, Ent Center for the Arts | Colorado Springs, CO | August 2023- Present

- Managed social media accounts across various platforms such as Instagram and Facebook, while curating content that catered to each respective audience.
- Designed and distributed engaging infographics to clearly communicate information to community members.
- Collaborated extensively with Theatreworks, UCCS Visual and Performing Arts, UCCS Galleries of Contemporary Art, and various musicians to maintain consistency throughout posts and brainstorm new ways to boost engagement and gain support.

Photographer and Reporter, The Scribe | Colorado Springs, CO | November 2021 – Present

- Captured compelling and visually engaging photographs to accompany articles and stories.
- Demonstrated effective communication and scheduling skills to conduct interviews and photograph persons both on and off the University of Colorado Colorado Springs campus.
- Researched, documented, wrote, and conveyed stories in an honest, ethical, and objective standard.

Seasonal Facility Manager, Front Range Recreation | Littleton, CO | May 2019 – September 2022

May 2019- September 2022, Littleton

- Provided outstanding customer service to patrons at the pool and properly communicated with the community HOA and General Managers.
- Trained new and returning lifeguards to further their knowledge of daily lifeguard tasks and advanced technical operations.

Lifeguard and Swim Instructor, Life Time Fitness

February 2021- November 2021, Colorado Springs

- Provided swim instruction based on a logical progression of aquatic development.
- Monitored safety and well-being of all guests in and around the swimming pool area.

Appendix K: Team Lead Resume: Marcus Manuel

Marcus Manuel

5325 Windgate Ct.
 Colorado Springs, CO, 80917
 (719) 659-0394 | mmanuel@uccs.edu

OBJECTIVE

Ambitious full-time student pursuing a degree in Computer Security while employed full-time to supplement my education. Focused on leveraging technology, diversity, and innovation to lead the competition. Seeking an internship and the opportunity for full-time employment with a like-minded organization.

TECHNICAL SKILLS

- | | | |
|----------|-----------------|---------------------------|
| • C# | • Ruby on Rails | • Microsoft Office Suite |
| • C++ | • MySQL | • Microsoft Visual Studio |
| • Java | • WordPress | • Unity Game Engine |
| • Python | • WooCommerce | |

EXPERIENCE

CrossLand Colorado	Monument, CO	July 2023-Present
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Website Development/Business Consultant/Driver

- Improve SEO for the crosslandcolorado.com website increasing Google and Bing search result positions for the company
- Deliver safe, timely, and personable transportation services to each client
- Expand our delivery of services into the Colorado Springs area and the surrounding areas

PeerlyLearning.com	Colorado Springs, CO	Spring Semester 2023
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Website/Marketing Consultant

- Develop the customer's website hosted on SiteGround utilizing WordPress and WooCommerce
- Improve the marketability and effectiveness of the customer's product by developing a subscription service and coupons for free products included in newsletter welcome emails
- Increase webpage traffic and SEO by developing advertising directed toward potential customers and changing the domain name from IlluminatePeerTeaching.com to PeerlyLearning.com

Best Western Plus Peak Vista Inn and Suites	Colorado Springs, CO	April 2016-July 2023
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Night Auditor

- Deliver tailored customer service for all guests on-site and virtually by actively listening to each guest and providing solutions
- Resolve guest concerns creatively and promptly resulting in repeat business and positive feedback captured on Travelocity and Medallia
- Evaluate each shift's paperwork for consistency and accuracy; build daily operating agenda for management staff ensuring proper sales promotions and optimum room preparation

UCCS College of Business	Colorado Springs, CO	Spring Semester 2021
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Video Game Development Consultant

- Updated functionality of the video game utilizing Unity Game Engine and compiling code in C#
- Generated sprites and visual interactions within the game to highlight supply chain concepts to achieve dynamic lesson plans for increased student engagement
- Monitored team progress and delegated tasks to ensure a cohesive team response to the client's objectives and concerns

EDUCATION

University of Colorado Colorado Springs	January 2018-Present
Bachelor of Innovation in Computer Security	Cumulative GPA 3.53/4.0

References

- Catalyst Campus for Technology and Innovation - Catalyst Campus*, <https://catalystcampus.org/>. Accessed 28 November 2023.
- “Add visualizations to a Power BI report (part 1) - Power BI.” *Microsoft Learn*, 18 July 2023, <https://learn.microsoft.com/en-us/power-bi/visuals/power-bi-report-add-visualizations-i?tabs=powerbi-desktop>. Accessed 28 November 2023.
- Bettes, Staci. “Analytical Reports – Writing Arguments in STEM.” *CalState-Pressbooks Network*, <https://pressbooks.calstate.edu/writingargumentsinstem/chapter/analytical-reports/>. Accessed 28 November 2023.
- Broekema, Gabi, and WAYNE HEILMAN. “Catalyst Campus in Colorado Springs gains tenants, new investment tool.” *Colorado Springs Gazette*, 12 November 2023, https://gazette.com/premium/catalyst-campus-in-colorado-springs-gains-tenants-new-investment-tool/article_52508aaa-7e5a-11ee-9bb6-9fbc3043d0b8.html. Accessed 28 November 2023.
- Calzon, Bernardita. “See Analytical Report Examples For Quality Data Analysis.” *Datapine*, 31 May 2023, <https://www.datapine.com/blog/analytical-report-example-and-template/>. Accessed 28 November 2023.
- Davidson, Jerome. “How to Draw Graphs in Jupyter Notebook.” *MakeUseOf*, 16 May 2021, <https://www.makeuseof.com/draw-graphs-jupyter-notebook/>. Accessed 28 November 2023.
- “4.8 Analytical Report Writing – Building Relationships With Business Communication.” *AtlanticOER Pressbooks Network*, <https://caul-cbua.pressbooks.pub/businesscommunication/chapter/analytical-report-writing/>. Accessed 28 November 2023.
- “Free Download.” *Anaconda*, <https://www.anaconda.com/download/>. Accessed 28 November 2023.
- “Power BI - Data Visualization.” *Microsoft*, <https://www.microsoft.com/en-us/power-platform/products/power-bi>. Accessed 28 November 2023.
- Pryke, Benjamin. “How to Use Jupyter Notebook in 2020: A Beginner's Tutorial.” *Dataquest*, <https://www.dataquest.io/blog/jupyter-notebook-tutorial/>. Accessed 28 November 2023.
- Wichmann, Nick. “,” - *YouTube*, 22 September 2021, <https://catalystaccelerator.space/>. Accessed 28 November 2023.

“Writing Formal Analytical Reports.” *UMass Dartmouth*,
<https://www.umassd.edu/media/umassdartmouth/writing-amp-reading-center/docs-and-pdfs/handouts/writing-formal-analytical-reports.docx>. Accessed 28 November 2023.