

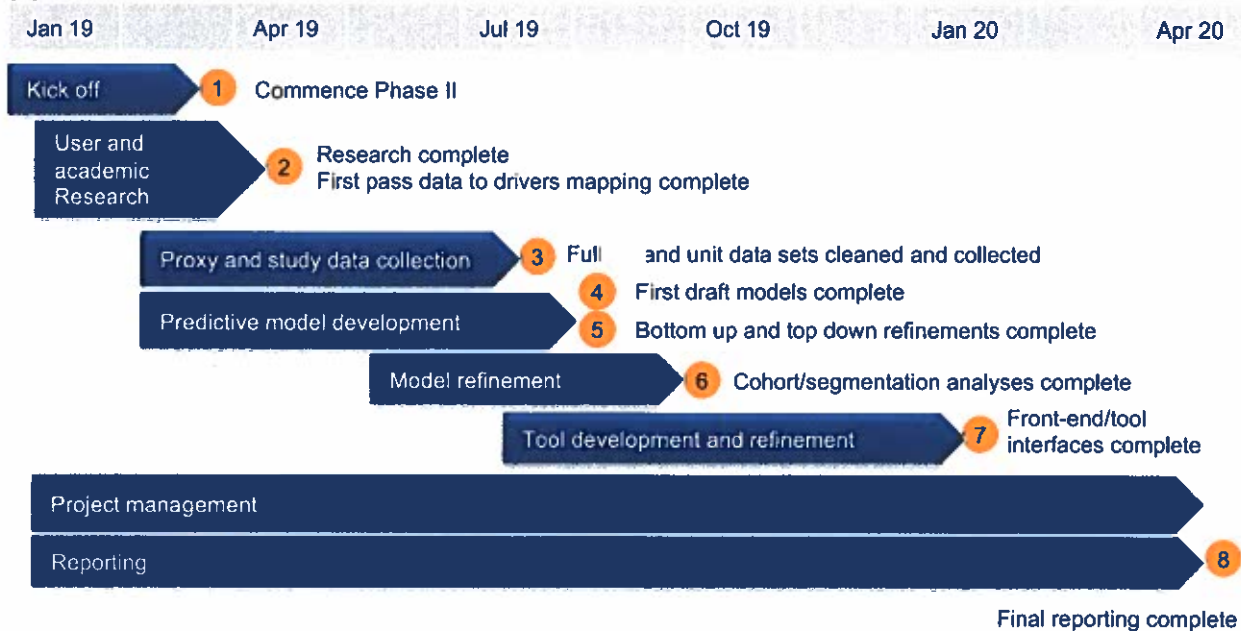
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(3) GLOSSARY

- LIST OF ACRONYMS AND TERMS OF ART USED IN THIS PROPOSAL
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-
-
-
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(4) MILESTONE IDENTIFICATION



(5) IDENTIFICATION AND SIGNIFICANCE OF THE PROBLEM OR OPPORTUNITY

In Phase I, identified retention, tracking and management of key USAF personnel as a pressing issue through conversations with HR managers, pilots, intelligence officers, data analysts and representatives from AF Manpower and Reserve Affairs:

Problems identified in Phase I (The USAF needs...)	Relationship to/objectives in Phase II (propose developing models and tools that...)
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Deeper insight into the volume of skills and capabilities NEEDED by the USAF	Analyze mission and other requirements documents to generate deeper insight into USAF needs (Red Line Tool)
Deeper insight into the volume of skill and capabilities IN the USAF	Analyze AFSC and other personnel information (e.g. resumes) to assess current capabilities (Blue Line Tool)
Skills and capabilities “ NEEDED ” and “ IN ” gap analysis	Flag skill and capability gaps and low-density areas (Gap Analysis Tool)
Insight into “ NEEDED ” and “ IN ” trends	Analyze historical and future mission and personnel information to build projections (Red/Blue Projection Tool)
Insight into the drivers of pilot retention decision making	Predict individual pilot retention decisions and the drivers of that decision (Pilot Retention Tool)
Help identifying billet that will encourage each pilot up for assignment to stay in	Predict the impact of open billets on a pilot’s retain/leave decision and flag the ones that will have the largest impact on an individual and systemic basis (Billet Optimization Tool)

(6) Phase II Technical Objectives (Commercial Applications Mapped to Proposed Prototype Tools):

	Commercial application (private sector) (<input type="checkbox"/> anticipate that this tool will help government contracting companies...)	Commercial application (USAF) (<input type="checkbox"/> anticipates that this tool will help the AF...)
Red Line Tool	Improve/speed their understanding of the requirements in federal RFPs	Help manpower teams better understand the people, skills and capabilities needed to ensure the AF is mission capable
Blue Line Tool	Develop deeper understanding of the capabilities of the people in their company	Help manpower teams understand the skills and capabilities the AF has
Gap Analysis Tool	Rapidly and accurately identify which RFPs they could pursue and what gaps exist that they will need to address through teaming or partnering	Help manpower teams identify skill and capability risk areas, so they can make better policy, recruiting, training, placement, and retention policy decisions
Red/Blue Projection Tool	Identify how federal RFP and employee skills and capabilities trends position them to respond to future RFPs	Give manpower teams more insight into future uniform and civilian personnel needs so they can ensure the AF has the right team to win futures wars
Pilot Retention Tool	Understand which employees are likely to leave and what is driving that	Reduce the AF’s pilot shortage by helping HR teams better understanding pilot retain/leave decision making, its drivers, and the impact of different billets
Billet Optimization Tool	Understand how to optimize employee placement to increase retention	Help HR teams optimize pilot to billet placement to increase retention and reduce the pilot shortage

(7) Phase II Work Plan- Per AFWERX guidance the Work Plan is addressed through the SOW below

(8) Proposer-Prepared Statement of Work (SOW)

a. 1.0 – Objective: To ensure mission success across USAF domains by identifying, training and placing the right people with the right skills and capabilities at an ever-faster pace through new personnel analytics, insights, and decision support tools. The prototype tools produced under this Phase II should help ensure that the USAF is able to develop and retain the necessary people and build the teams needed to deploy the most lethal Force possible.

b. 2.0 – Scope: During Phase II Contractor shall develop prototype tools to support the USAF’s manpower readiness mission. Contractor shall deliver:

“Today’s threat environment requires agile, responsive military and civilian personnel management systems to ensure the AF continues to retain the highly skilled talent needed to defend the Nation. Cultivating workforce talent is a priority.” -Lieutenant General Gina M. Grosso Deputy Chief of Staff Manpower, Personnel and Services USAF

	Description (A tool that...)
Red Line Tool	Assesses and predicts the diversity and volume of skills and capabilities that people within a unit need to have for the unit to perform all missions
Blue Line Tool	Assesses and predicts the diversity and volume of skills and capabilities that people within a unit have
Gap Analysis Tool	Identifies instances where the demand for a skill or capability exceeds or is close to exceeding the availability of that skill or capability at the USAF and unit level
Red/Blue Projection Tool	Projects changes in both the Red and Blue line at the USAF and unit level
Pilot Retention Tool	Analyzes data on a pilot to estimate their likelihood of leaving at the end of their mandatory service period, what is driving their decision, and how different follow on billets may affect that retention decision
Billet Optimization Tool	Analyzes the pool of pilots at the end of their mandatory service period, and the pool of billets that need to be staffed and creates a pilot-to-billet assignments list that is optimized for retention.

c. 3.0 – Background: Contractor will comply with and ensure that all tools comply with USAF PII handling and network security requirements. Contractor will leverage existing research on skills, capabilities and requirements identification produced by the including but not limited to:

Document title	Author:
Factor Theory: Bridging Talent Management Ends with Data Science Means	Sean O. Siddiqui, Maj, USAF
USAF Optimize Aircrew Retention Crowdsourc Pulse #1	Air Crew Task Force
Optimize Aircrew Retention: Action to Improve Work-Life Balance and Quality of Service	Jesse J. Friedel, Colonel, USAF
Supplemental Career Paths for AA Pilots: A Warrant Officer Component or An Aviation Technical Track?	Albert A. Robbert, Michael G. Mattock, Beth J. Asch, John S. Crown, et al.

d. 4.0 – Task/Technical Requirements:

1. Project Management: Contractor shall provide project management support under this contract including the management and oversight of all activities identified in this SOW whether performed by contractor or subcontractor personnel. The PI shall serve as the primary interface and POC with the Government program authorities and representatives on technical program/ project issues. The PI shall provide management, direction, administration, quality assurance (QA), and leadership in the execution of this contract.

- 1.1. Communications:** Contractor shall facilitate timely and thorough government and contractor communications to ensure the accomplishment of all elements of the SOW.
- 1.2. Integration:** Contractor shall work closely with, and conduct periodic integration test with relevant networks, systems, existing tools, and data teams to ensure all tools integrate onto USAF networks and meet all USAF and FEDRAMP requirements. Contractor shall leverage experienced subcontractors and partners if needed to ensure timely and effective integration.
- 1.3. Agile:** Contractor shall employ an agile development methodology and work closely with end users and stakeholders to iterate and prioritize designs and features to ensure timely and high-quality delivery.
 - 1.3.1. Archetype creation:** Contractor shall work with end users and stakeholders to develop clear and insightful user studies/profiles for each stakeholder and to ensure that the products and research produced support well-articulated user needs.
 - 1.3.2. User journey matching:** Contractor shall develop current and future user process maps to ensure that the software supports and integrates into user process flows.
 - 1.3.3. Sprints and touchpoints:** Contractor shall hold regular report and prioritization sessions.
 - 1.3.3.1. Small group:** Contractor shall hold user feedback, features prioritization, testing, and planning session with core users and stakeholders every two weeks.
 - 1.3.3.2. Large group.** Every month contractor shall hold a similar session with a larger group of end users to get broader feedback and guidance.
 - 1.3.3.3. Integration touchpoint:** Contractor shall meet with systems and data owners to discuss development and run tests to ensure smooth tool integration.
- 1.4. Compliance management:** Contractor shall track and document all SOW activities and continuously evaluate performance to ensure all requirements are met.
- 1.5. Notification:** Contractor shall notify the USAF Contracting Officer (CO), Contracting Officer's Representative (COR), and USAF Client Representative (CR)) in writing of any technical, financial, personnel, or general managerial problems encountered.
- 2. Tracking and performance:** Contractor shall track SOW adherence and outcome metrics and report them at a minimum on a monthly basis.
 - 2.1. Process metrics:** Contractor shall track process adherence metrics:
 - 2.1.1. Reporting:** Compliance with all Phase II reporting requirements.
 - 2.1.2. Delivery:** On-time delivery of all software, prototype tools, and supporting deliverables.
 - 2.1.3. Compliance:** Compliance with project plan.
 - 2.1.4. Target:** Contractor shall achieve a 100% success rate on each of these metrics. If any process metrics are not met the PI shall immediately notify the USAF client representative and develop a plan to ensure compliance returns to 100%.
 - 2.2. Outcome metrics:** Once USAF customers begin using the tools contractor shall track outcomes metrics to validate the value and efficacy of the tools produced
 - 2.2.1. End user satisfaction:** Contractor shall track the volume of use of each tool, and segment the use by types of users, commands, etc. to understand who, which features, and the degree to which the tools are valued. By the end of the SOW contractor shall achieve consistently high use rates as defined by the USAF customer.
 - 2.2.2. Tools feedback:** Contractor shall embed micro-surveys into each tool to gauge the value users find and get feedback on how to improve the prototype tools. By the end of the SOW contractor shall achieve consistently positive survey responses as defined by the USAF customer.

2.2.3. OTHER OUTCOMES METRICS

2.2.4.

2.3. Other metrics: With reasonable notice from the USAF customer, contractor shall track other relevant process and outcomes metrics.

2.4. Reporting: Contractor shall report each of these metrics to the USAF customer on a monthly basis, and when requested by the USAF customer upon reasonable notice.

3. **Kickoff:** Contractor shall schedule, prepare for, and hold a kick-off where contractor shall meet with the key stakeholders to review the proposed Phase II project plan, prioritize the tools and features, finalize data and research plans, and discuss hypotheses.
4. **Research:** Contractor shall conduct a deeper analysis and perform further research to ensure that all development builds on, and does not duplicate, existing knowledge and to ensure the tools built under this Phase II best address user needs.

4.1. FOCUS AREAS AND APPROACH TO THE RESEARCH

4.2.

4.3.

5. Data collection:

5.1. Data identification and collection: Contractor shall work with USAF customer to identify the data needed to analyze and assess Airman and group capabilities and extract that data.

5.2. Study data codification: Contractor shall work with the USAF customer to identify existing, available, and relevant direct and proxy data for each of the factors identified in the research.

5.3. Collect proxy data: Contractor shall collect proxy and other data (e.g. from a volunteer cohort of current and former pilots) to accelerate development and create richer feedback and insight

6. Model development:

6.1. Draft model development: Contractor shall develop a draft model for each of the tools based on the research conducted.

6.2. Test and iterate the model: Contractor shall use actual and proxy data to test the models, share the models' predictions with manpower stakeholders to get feedback and, if possible, compare the models' results to actual outcomes. Based on the tests and feedback contractor shall refine the models.

7. Model refinement:

7.1.

MAJOR STEPS IN THE MODEL REFINEMENT PROCESS

7.2.

7.3.

7.4.

7.5.

8. Prototype tool development:

8.1.

APPROACH TO DEVELOPING THE TOOLS

8.2.

8.3.

tool and iterate it based on customer feedback and agile practice until all functionality is built and all user needs in this SOW are met.

9. Delivery

9.1. Tool delivery: Contractor shall deliver prototypes to the USAF customer per their instruction.

9.2. Collateral material delivery: All instructional materials and guides shall be delivered to the USAF customer in hard and soft copy.

9.3. Tool training and process integration: Contractor shall draw on findings from previous work with USAF partners to determine the resourcing requirements, timelines, and Courses of Action (COAs) necessary to integrate the new tools into the USAF customer’s processes. Contractor shall identify optimum tool placement within existing processes to ensure a smooth and rapid transition, as well as determine any policy/ regulatory/ process barriers to its integration and develop solutions to address them.

Milestone Schedule; and Timeline of key dates and development goals

Milestone/key dates/development goals	Timeline
KEY STEPS FROM ABOVE	Jan 2019
	Feb 2019
	Feb 2019
	Jun 2019
	Jun 2019
	Jul 2019
	Aug 2019
	Aug 2019
	Jan 2020
	Jan 2020
	Mar 2020

Safety requirements: Contractor shall ensure that work facilities meet all safety standards. Contractor shall ensure that all data and network safety protocols are followed per DoD and USAF policy.

Hazardous Materials: Contractor shall not use hazardous materials in this Phase II (see attachment)

(9) DELIVERABLES

Deliverable	Type	Schedule	Quantity
THE INTERMEDIATE AND FINAL DELIVERABLES THAT COME OUT OF EACH OF THE ABOVE	Report	Jan 2019	1
	Report	Feb 2019	2
	Report	Feb 2019	2
	Report	Feb 2019	1
	Report	Feb 2019	1
	Report	Feb 2019	1
	Data	Jun 2019	
	Prototype	Jun 2019	2
	Prototype	Oct 2019	7
	Prototype	Oct 2019	1
	Prototype	Oct 2019	1

	Prototype	Oct 2019	TBD
	Prototype; Report	Oct 2019	1
	Prototype; Report	Oct 2019	1
	Report	Jul 2019	7
	Prototype	Jul 2019	7
	Prototype	Dec 2019	7
	Sample	Jan 2020	7
	Report	Jan 2020	7
	Report	Jan 2020	7
Phase II Required Deliverables			
Scientific and Technical reports	Report	Per Phase II rqts	1
Status reports	Report	Quarterly	4
Summary report	Report	Per Phase II rqts	1
Draft report	Report	Per Phase II rqts	1
Final reports	Report	Per Phase II rqts	1
Additional reporting	Report	As requested	TBD
Updates to the commercialization results	Report	Per Phase II rqts	TBD

Delivery of software: MVP and prototype software shall be delivered per the schedule. However, the final tools will be transitioned via a Phase III.

(10) RELATED WORK: The work proposed for Phase II builds on top of _____, built

- OUR TECHNICAL DEVELOPMENT TO DATE
- OUR COMMERCIAL WORK/VALIDATION TO DATE

(11) COMMERCIALIZATION POTENTIAL

1. Demonstrate Existing Non-Defense Commercial Technology to be Adapted:

CONNECTION OF THIS WORK TO COMMERCIAL REQUIREMENTS

	REVENUE CHART
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2. What is the first planned product to incorporate the proposed technology? The technologies to be

--

3. Who are the probable customers, and what is the estimated market size?

--

3.1. Probable customer: Probable customers are discussed in the Military Application section

3.2.

DISCUSSION OF VARIOUS MARKETS WE ARE FOCUSED ON

3.3.

3.4.

3.5.

--

4. How much money is needed to bring this technology to market and how shall it be raised? The

--

Marketing expertise:

Who are the probable competitors and our price/quality advantage:

-
-
-

LIST OF COMPETITORS AND HOW WE DIFFERENTIATE

Commercialization strategy/plan:

1. **Prior SBIR/other research commercialization:**
2. **Private sector or non-SBIR/STTR funding sources demonstrating commitment to Phase II efforts/results:**
3. **The existence of Phase III follow-on commitments for the research subject:**
4. **The presence of other indicators of commercial technology potential, including the firm's commercialization strategy:**

a.

SALES STRATEGY TO CUSTOMER 1

b. SALES STRATEGY TO CUSTOMER 2

c. OTHER THOUGHTS ON CUSTOMERS AND COMMERCIALIZATION

d.

(12) Military Applications:

1. Describe customer engagement (list of people engaged and what we learned):

1.1. People engaged:

WHO WE TALKED TO AND WHAT WE HEARD

“More than an entire generation of Airmen have prioritize operations over training. Our aircrews are not able to maintain full-spectrum readiness against all threats with these conditions.”-Lieutenant General Gina M. Grosso Deputy Chief of Staff Manpower, Personnel and Services United States AF

1.2. What we learned: based on those conversations

HOW OUR UNDERSTANDING OF THE USERS' NEEDS CHANGED/EVOLVED

1.3. Existing/potential military requirement:

HOW OUR SOLUTION TIED TO THE NEEDS WE HEARD

2. Military potential of the SBIR/STTR Phase I results:

THE POTENTIAL BENEFIT FROM OUR SOLUTION/HOW OUR SOLUTION ADDRESSES THE NEEDS WE HEARD

3. Identify the DoD agency/organization most likely to benefit from the project: The proposed tools

3.1. MORE DETAIL ON THE CUSTOMERS

3.2.

3.3.

4. USAF end user customers (describe in detail and their desires):

4.1. DESCRIPTION OF THE ORGANIZATIONS WE GOT MOUS FROM

4.2.

5. Note on PII and data collection:

NOTE ON SPECIFIC/CRITICAL SUPPORT ONE PARTNER HAD VOLUNTEERED

6. State if any DoD agency has expressed interest in, or commitment to, a non-SBIR, Federally-funded Phase III effort: The are motivated and empowered to support our Phase II and transitioning the resulting tools in Phase III and we have a signed MOU from them

7. Agency point of contact names and telephone numbers:

7.1. POCS AND CONTACT INFO

7.2.

(13) Relationship with future research or research and development (R/R&D) efforts: While the

HOW THE TOOLS DEVELOPED UNDER THIS SBIR CONNECT TO/WILL BE EVOLVED TO MEET COMMERCIAL REQUIREMENTS

1. State the anticipated results of the proposed approach, specifically addressing plans for Phase III, if any:

OUR CONTRACTING STRATEGY

2. Discuss the significance of the Phase II effort in providing a basis for the Phase III R/R&D effort, if planned. Identify and discuss connection between Phase II results and planned Phase III efforts: In

HOW EFFORTS IN PHASE II CONNECT TO/ENSURE SUCCESS IN PHASE III

(14) KEY PERSONNEL

PI: Geoffrey B. Orazem (American citizen)

Education:

Harvard Law School, Juris Doctorate Jun 2009

St. Mary’s College of MD, BA Comp. Sci. May 2000

Professional Experience:

Eastern Foundry/Federal Foundry, July 2014-Present; Founder, CSO/CEO

- Created a federal contracting resource center; built the revenue from 0 to \$2 million in 3 years
- Product owner for online service offerings, online education and software.

McKinsey & Co., Jan 2011-Apr 2014; Engagement Manager

- Planned, implemented, and oversaw multiple lean transformations (McKinsey approach to 6-Sigma) in the insurance and transportation sectors.
- Worked with major US and international companies to develop growth strategies and resolve structural issues which significantly improved profitability.

Iraqi Transportation Network June 2009-Oct 2010 Tribal Affairs Advisor

- Helped develop a private, tribally-based transportation company that ran over 4,200 trucking convoys throughout Iraq independently, relieving American soldiers of convoy duty, building sustainable infrastructure, and promoting cooperation among Iraq’s Sheikhs.

United States Marine Corps. Oct 2000 –Oct 2005 Infantry Platoon Commander

- Led a platoon of 59 infantry Marines and Sailors from An Nasiriyah to Baghdad

OTHER KEY PERSONNEL:

1.

BRIEF BIOS ON KEY PERSONNEL

2.

3.

4.

5.

6.

7.

8. **Additional Staff to Secure on Award: Web Software Developer, Data Architect (Junior), Data Architect (Senior), Web Designer**

(15) FACILITIES/EQUIPMENT/FINANCES:

1. **Facilities:** Proposed performance locations meets environmental laws and regulations of Federal, state, and local Governments for, but not limited to, airborne emissions, waterborne effluents, external radiation levels, outdoor noise, solid and bulk waste disposal practices, and handling and storage of toxic and hazardous materials.

2. **Infrastructure required, equipment to be purchased and safety/regulatory compliance of facilities:** All work will be done at offices and at locations designated by the AF customer. No special facilities or infrastructure is needed beyond a basic cloud environment for developing and testing. No equipment will be purchased using SBIR funds and no safety/regulatory compliance is implicated.

REVENUE CHART

3. **Proof of financial resources:**

EVIDENCE THAT WE ARE UNLIKELY TO GO BANKRUPT

(16) CONSULTANTS/SUBCONTRACTORS

- CONSULTANTS/SUBS WE PLANNED TO USE AND WHAT THEY WOULD BE CONTRIBUTING
-
-

- **LOIs:** Signed copies of LOIs with SOWs and cost breakdowns are in supplemental documents
- **Work share:** FF retains more than 50% of the R&D under this proposal

(17) PRIOR, CURRENT, OR PENDING SUPPORT OF SIMILAR PROPOSALS OR AWARDS WARNING: Other than the SBIR Phase I there is no prior, current, or pending support of similar proposals or awards.

Assembly Application Video https://www.youtube.com/watch?v=7_lbYRpz27U



FUNDED SBIR: ASSEMBLY UNIT NEEDS AND CAPABILITIES ANALYTICS

ASSEMBLY CAN HELP THE AIR FORCE FIELD THE MOST LETHAL FORCE POSSIBLE BY ENSURING THE AF KNOWS THE SKILLS AND CAPABILITIES OF THEIR PEOPLE, AND WHAT THEY NEED

Assembly helps government contractors gain deeper insight into what their people can do, what RFPs require of them, identify gaps between the two, and find other companies to team and partners with to fill those gaps.

We propose extending that capability to develop a suite of tools that will help commanders better understand their people’s capabilities and what they need to accomplish all missions, today and tomorrow.

	Description (A tool that...)
Red Line Tool	Assesses and predicts the diversity and volume of skills and capabilities that people within a unit need to have for the unit to perform all missions
Blue Line Tool	Assesses and predicts the diversity and volume of skills and capabilities that people within a unit have
Gap Analysis Tool	Identifies instances where the demand for a skill or capability exceeds or is close to exceeding the availability of that skill or capability at the AF and unit level
Red/Blue Projection Tool	Projects changes in both the skills and capabilities needs at the AF and unit level
Pilot Retention Tool	Analyzes data on a pilot to estimate their likelihood of leaving at the end of their mandatory service period, what is driving their decision, and how different follow on billets may affect that retention decision
Billet Optimization Tool	Analyzes the pool of pilots at the end of their mandatory service period, and the pool of billets that need to be staffed and creates a pilot-to-billet assignments list that is optimized for retention.

OVERVIEW OF OUR COMPANY

CONTACT: If you would like to learn more, or would like a demo please contact us at:

geoff@federal-foundry.com

202-725-7483