Project Cyclops

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1 PROJECT REQUIREMENTS

1.1 PROJECT BACKGROUND

Project Title:

Generative AI: Accurate Object Detection and Advanced Development

Project statement:

Development and integration of AI-assisted spectral analysis methods for accurate signal detection in military settings and dependable functional biomolecule analysis in biotechnological applications

Project Sponsor and Client:

● **Project Sponsor:** Department of Defense (DoD) & Department of Health (DOH)

● **Project Client:** Collaborative effort between the DoD, DOH and a consortium of biotechnological research institutions, including major pharmaceutical companies and leading research universities.

Company Organization:

This project plan is written for **Advanced Defense and Biotech Solutions, Inc. (ADBSI)**, a leading company specializing in the development of cutting-edge technologies for defense and biotechnology sectors.

Strategic Background:

National security and defense:

The project proposal is in line with strategic goals as it deals with the growing complexity and variety of chemical, biological, radiological, nuclear, and explosive (CBRNE) threats, which require advanced detection and identification technologies. Conventional approaches are frequently inadequate in quickly changing operational settings. Given the increasing global tensions and unconventional warfare methods, there is an immediate requirement to improve detection capabilities to safeguard both military personnel and civilians.

Biotechnological advancements:

Biotechnological research is advancing quickly, requiring accurate analytical techniques for progress in drug development, environmental monitoring, and bioprocessing research. Current technologies have limitations in accuracy, speed, and adaptability, creating a demand for innovative solutions in healthcare. The need for

advanced analytical platforms is driven by global health crises, and this project aims to address critical gaps in existing biotechnological tools.

Technological Integration and Innovation:

Utilizing generative AI and merging multi-sensor data will greatly improve the precision and effectiveness of novel drugs, spectral analysis, helping improve data-based decision-making in military and biotechnological fields. The latest progress in AI and sensor technologies offers a unique chance to create combined platforms that were previously impractical, and embracing these developments will position ADBSI as a leader in technological advancement.

The project's goal is to provide a complete novel spectral analysis platform that improves national security and promotes advancements in biotechnology by addressing these strategic needs. Successful execution of this project will meet current operational needs and lay the groundwork for future technological progress in both industries.

1.2 BUSINESS OBJECTIVES:

The Project Cyclops will meet the following business objectives that are required by the DOD and DOH:

Business Objectives	Business Values / Measures	Quality and Compliance Specifications
Develop and integrate spectral analysis technologies capable of detecting and characterizing chemical, biological, radiological, nuclear, and explosive (CBRNE) threats in military settings	**Measure**: High detection accuracy and low false positive/negative results **Value**: Reliable identification of threats and reduces the risk of undetected or unnecessary alarms	Adherence to MIL-STD (military standard) specs. Adherence to health and environmental-related regulatory specs. Demonstrate that the new drug is safe and effective through rigorous preclinical and clinical trials Ensuring the technology meets rigorous military/biotech standards for performance, durability, and interoperability.

	Dependable AI-supported drug design Consistent AI-driven biomolecule analysis	Cybersecurity compliance like NIST and GDPR for the European market. Necessary credentials from the DoD. Ensure integrity, accuracy, consistency, and reliability of all research data and documentation. Ethical standards and follow ethical guidelines for research
Improve spectral analysis methods for examining biomolecules, such as proteins (including drugs), DNA, RNA (including drugs), and important metabolites. This includes tracking changes in characteristics across different biotechnological applications. Generative AI engine capable of ● Synthesizing new functional drugs ● Analyzing key biomolecules for making informed decision in bioprocessing	**Measure:** Precise detection of biomolecules with high resolution absorbance spectrum. Sensitivity to detect and differentiate different structures. Ability to handle small volume of sample with wide range of concentration from simple and complex biological systems In silico construction of drugs with desired functionality **Value:** Replicable results patient over patient	Industry, FDA and ISO standards for laboratory devices. GDPR and HIPAA compliance. Standardization of methods for scientific scrutiny. OSHA and EPA

	that is characteristic of scientific research. High throughout (speed) in running samples.	

1.3   PROJECT REQUIREMENTS

1.3.1 Categories of General Requirements

- **Adaptability and Flexibility:**

Requirement: Highly adaptable to various spectral analysis applications, including both military and biotechnological environments.

Different types of analyses, materials, biomolecules and substances, and be configurable to meet evolving needs.

- **Generative AI-Enabled Technologies:**

Requirement: Incorporate advanced AI technologies to enhance the platform's capabilities.

AI should be used for improved pattern recognition, predictive analytics, and decision support, enhancing the overall performance of the spectral analysis.

- **Enhanced Sensing Capabilities:**

Requirement: Provision of superior sensing capabilities with high-resolution and precision.

Detects a wide range of substances and anomalies with high accuracy, suitable for complex and diverse environments.

- **Improved Analytical Accuracy:**

Requirement: Achievement of high analytical accuracy for reliable results.

Utilize AI algorithms to refine data processing, reduce errors, and enhance the reliability of analytical outputs.

- **Facilitate Data-Driven Decision-Making:**

Requirement: Provision of tools and features that support effective data-driven decision-making.

Include advanced data visualization, reporting features, and decision-support tools to translate complex spectral data into actionable insights.

● **User-Friendly Interface:**

Requirement: Design an intuitive and user-friendly interface for easy operation.

Accessibility to users with varying levels of expertise and provide straightforward access to its features.

● **Robustness and Reliability:**

Requirement: Reliable and robust, capable of functioning under various conditions.

Durable for military use and stable for laboratory environments, ensuring consistent performance.

● **Scalability and Future-Proofing:**

Requirement: Scalable and adaptable to future advancements.

Support upgrades and enhancements to integrate emerging technologies and meet future requirements.

● **Real-Time Analysis and Reporting:**

Requirement:

Cyclops will be able to provide battlefield commanders at the Platoon, Company, Battalion and Brigade level real-time reporting, and intelligence.

Our generative AI engine will be able to learn from a large dataset of drugs (mainly proteins) to design novel drugs with desired functionality. It is also capable of monitoring bioprocess and biological systems for predicting their performance and making informed decisions

Detail: The system should deliver instant data processing and alerts to support timely decision-making in operational scenarios.

1.3.2 Military Requirements

● **Advanced Signal Detection:**

Requirement: Has the ability to record radio signal's IQ data, and analyze it against a training library of known and unknown signals such as radar, military radios, satellite signals, civilian signals and pinpoint its transmission location.

Detail: IQ data is the standard method to digitally record wave components of radio signals. Once the IQ data is captured, this signal can be analyzed. When available, three or more networked spectrum analyzers can simultaneously capture a signal of interest and can triangulate the signal in question to pin-point location using Time Difference of Arrive (TDOA) calculation techniques for radio signals.

- **Field-Deployable Design:**

Requirement: The platform must be portable and ruggedized for field use.

Detail: It should be designed for ease of transport and operation in challenging field conditions, with protection against environmental factors. Cyclops will be man-portable and networked such that each squad should have at least one person outfitted with Cyclops hardware. Therefore, a platoon or a company of soldiers occupying an area of several square kilometers will always have at least 7-15 networked Cyclops units in operation.

- **Integration with Military Systems:**

Requirement: Cyclops shall be able to integrate and control military radios such as SINCGARS, SATCOMs, Radar in addition to spectrum monitors and spectrum analyzers from Keysight, Rodhe & Schwarz and Anritsu.

Detail: Having total situational awareness requires Cyclops to interface and control not only spectrum monitors but transmitters such as military radios. By having access to transmitters and the spectrum sensors, Cyclops can have better situational awareness and discriminate between friendly transmissions and unknown/enemy transmissions.

1.3.3. Biotechnological Requirements

- **Precision in Analytical Measurements:**

Requirement: high precision in analysis of target biomolecules for biotechnological applications e.g., bioprocessing development.

Dependable development of new drugs through AI-driven protein structure and function prediction

Meets the strict accuracy requirements for applications such as medical diagnostics and biochemical application.

- **Integration with Laboratory Infrastructure:**

Requirement: Integration with existing laboratory equipment and systems.

Work with other lab instruments and data management systems to streamline research workflows

● **Compliance with Regulatory Standards:**

Requirement: Adhere to relevant regulatory standards for biotechnological applications. Meets industry standards such as those set by the FDA or other regulatory bodies.

● **Enhanced Data Analysis and Visualization:**

Requirement: Provision of advanced data analysis and visualization tools.With features that facilitate detailed data interpretation, graphical representation, and result analysis for research purposes.

1.4. DELIVERABLES

● The Cyclops software/hardware platform can analyze, make predictions and report relevant data to military users and biotech professionals after being fed training data.

● Detect, identify and pin-point location of unknown RF signal (military use-case)

● AI-powered spectroscopy technology for reliable analysis of biomolecules of interest in different biotech applications, including complex biological mixture and tissues

● Generative AI engine for designing novel drugs with customized functionality (Protein & RNA)

● Provide training documentation, marketing collaterals, datasheet and end-user training course.

● User-friendly means of importing training data for generative AI engine. Two main categories include military operation and biomedical research.

● Comprehensive testing and validation reports, including laboratory and field test results.

● Final project report summarizing achievements, challenges, and recommendations for future enhancements.

1.5. PRODUCT LIFE CYCLE

1.5.1 Initiation

- Look into previous intellectual properties (IP) and patents. Determine if it is feasible technologically and has market demand. Determine the areas where freedom to operate is present.

- Study the top AI-based software product lines of major companies (Keysight, Rohde & Schwarz, Anritsu, CRFS and Signal Hound).

- Examine websites (e.g., Sam.gov) to determine current contract tender trends.

- Document the purpose of developing a versatile spectral analysis platform. Include objectives like improving sensing and analytical capabilities, the scope of the project (military and biotechnological applications), initial estimates of time and budget, and key milestones.

- Present findings to sponsors and stakeholders. Sponsor and 70% of stakeholder agreement required to proceed.

- Assemble a team with expertise in spectral analysis, military technology, biotechnology, and project management to ensure effective development and integration of the platform.

1.5.2 Planning

- Draft scope statement, and confirm project scope and objectives with clients.

- Develop realistic cost, schedule, and performance estimates.

- Establish a plan for changes and communication.

- Make sure that key stakeholders and key requirements have been identified and communicated.

- Make plan for conducting feasibility study, performing risk assessment, and contingency plans, establish supply chain strategy where needed

- Develop WBS for reviewing schedule, budget, and resource allocation with key stakeholders

- Establish what - if scenarios and outsourcing options

- Develop/ review quality assurance plan, a plan for initial design (prototyping), review and approve planning documents

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1.5.3 Executing

- **Phase 1**: Start development of the spectral analysis platform and allocate resources to the teams. Train AI models with input data (e.g., biological or signal) for enabling the generative AI engine to recognize patterns, establish correlations, and establish predictive models

- **Phase 2**: Research and develop new spectral analysis techniques that improve the accuracy and decision making capabilities of the AI platform. Create the prototypes of the spectral analysis device in military and biotech applications.

- **Phase 3**: Consult with the lawyers to secure a proper End User License Agreement to protect the IP of the biotech firms using our platform.

- **Deliverable 1**: Ensure Cyclops can analyze data, reliably predict the outcome, and make informed decisions.

- Ensure the AI model is trained to detect and distinguish radio transmitters within specific distance range (e.g., 50 m)

- Ensure platform to generate high resolution differential absorbance spectrum

- Ensure platform to enable detection and comparison of structural changes

- Ensure platform to enable sampling at low vol and wide concentration range

- Ensure that AI model is trained for designing drug or detecting biomolecules in complex biological system

- **Phase 4**: Create all necessary training guides for military and biomedical applications to enable staff training. Conduct pilot testing at every deliverable phase completion point, troubleshooting all errors that arise.

1.5.4 Monitoring and Controlling

- Perform comprehensive testing and calibration to draw baseline and ensure system functionality, accuracy, reliability, and robustness.

- Identify critical input parameters, rank them in order of impact on KPIs, and validate the platform with field tests and simulations, then fine-tune parameters and address issues based on findings.

- Perform pre-mortem analysis, identify and prioritize new risks, develop mitigation strategies, and maintain an issue log.

- Evaluate AI prediction accuracy and promptly establish a clear process for escalating and resolving issues. Regularly review and update risk plans with Stakeholders.

- Ensure spectral analysis techniques meet quality standards through inspections, testing, and reviews. Track metrics, address deviations quickly, document activities, and update stakeholders to maintain compliance and improvements.

1.5.5 Closing

- Prepare detailed technical documentation, including system architecture diagrams, hardware specifications, software configurations, and algorithm descriptions

- Verify the project deliverables in accordance with the specified requirements

- Marketing collateral (if needed). Assurance that all the work has been completed. Assurances that all agreed upon PM processes have been executed. Gain signed recognition of completion of the project.

2   PROJECT SCOPE

2.1 PROJECT DESCRIPTION AND TECHNICAL SPECIFICATIONS

AI PLATFORM COMPONENTS

1. Software

1.1. Molecular programming model with statistical analysis tools available in two versions:

- Open source

- Proprietary

1.2. Bioinformatics software

1.3. Web-based chat interface

1.4. Cloud computing service for enhanced scalability

2. Hardware

2.1. Spectral analysis equipment with integrated software

2.2. Graphics processing unit (GPU)

2.3. Visualization tools with embedded software

3. Integrated platform for combining various hardware and software components

Graphical User Interface (GUI)

● Two main GUI: Military Field Use and Biomedical Research

● In field use, display of spectrum traces, real-time spectrum analyzer (RTSA) and continuous display of classification of center frequency is displayed

● Night mode with red display to enhance night vision.

● Integration with mapping services for TDOA prediction

● Touch-screen friendly menu for common tasks

● User-customizable

● Simple AI training interface with annotation features and timeline.

● Supports SCPI commands for integration with sensors and instruments

Hardware Package

● Low power processor and GPU for local AI capabilities

● High-speed, encrypted communication with remote instruments and other networked users via mesh networking.

● Local controller uses open source software

● Biometric log-in and FIPS compliance

● 2 hour battery life with 1 MBITR battery

● IP-rated for dust, inclement weather, and excessive shock.

● Support PCI-E, TCP/IP, USB-C physical connection to remote instruments.

● Hardware and battery shall be less than 15 lbs for field use.

The AI Powered Spectrum Analysis and Prediction platform capable of making sense of the dense spectrum is at the core of Cyclops feature-sets. Upon connecting to supported sensors and instruments, Cyclops can learn and make predictions such as:

● Transmitter's position via using TDOA estimation. Accurate to 50 meters for a human height 5W transmitter within a 5 sq mile area within 1 minute.

- Identify the type of transmission and modulation types: AM, FM, LTE, 5G, P25, DMR, TETRA, LoRA, frequency hop,

- Take IQ data captures of signals from 10 kHz to X-Ray using supported test and measurement equipment.

- IQ captures data automatically to train the AI for faster prediction and classification of unknown signals.

- Programmable with support for SCPI commands.

- Network capable of capturing data from multiple instruments.

Our generative AI engine provides solutions to the following bioengineering problems:

- **Programmable biology:** Design biomolecule with specific functionality, particularly designer anticancer proteins or other "from scratch" proteins with many applications in medicine, industry, environmental engineering.

  ➔ Desired description of biomolecule function as process input to be fed into our AI Platform

  ➔ Design of biomolecule with the target functionality as the process output

- **Drug discovery:** Analyze spectral data to identify biomarkers or predict patient responses to treatments. Personalized medicine based on personal genomic data and health related data for developing personalized treatment plans tailored to specific needs.

- **Predictable behavior of biological systems:** Predict biological system behavior by analyzing spectral data to identify and quantify biomolecules or disease states, enhancing medical image analysis and bioprocessing optimization.

- **Automate the interpretation of complex biological data sets**: Reducing the need for manual intervention and minimizing human error. Automatically, segment and classify structures in medical images.

- **Integration with other technologies:** Integrating spectral data with other types of biological data. Also, such platforms can integrate with other technologies like robotics, high-performance computing, and cloud-based services.

- **Designing human-AI interfaces:** Make interactions with AI systems as natural and effective as possible, enhancing productivity and user experience

PROJECT KEY POINTS CONFIRMATION

Place: San Jose, CA

Time/Period: 5 years

Budget: $50 million - $25 M for Biotech department and $25 M for Military department.

2.2 ACCEPTANCE CRITERIA

1. Rigorous validation of AI-generated biomolecules by regulatory bodies require to ensure they meet the safety and efficacy requirements

2. Cyclops is capable of analyzing target biomolecules in complex biological system with >95% of accuracy

3. Cyclops can predict, design, and produce drugs with over 95% functional similarity to biosimilars

4. Cyclops is able to predict a 5W transmitter's location to within 50m accuracy when located within a 5 Sq mile area.

5. Cyclops can detect drones to within 15m accuracy, if drone position was superimposed on a flat surface.

6. Cyclops can classify an unknown signal with 90% accuracy if the signal in question has a signal-to-noise ratio of greater than 10 dBm.

7. Cyclops can continuously record IQ data with a signal bandwidth of 100 MHz.

8. Hardware package can operate in temperature range between -20 to 45 degrees Celsius.

2.3 OUT OF SCOPE

1. External partners will manage the complete pre-clinical and clinical studies to verify the efficacy and safety of the designed biomolecules, while Cyclops will oversee a limited portion of the pre-clinical work, also with the support of external partners

2. The production of spectroscopy technology is accomplished with the assistance of an external manufacturing partner.

3. External partners will handle incorporation of the AI-platform into the large scale manufacturing setting for reliable quantification of target biomolecules for making informed decision

4. Software updates will be delivered after launch, therefore out of scope for launch.

5. Non-terrestrial signals, with the exception of GPS, will be considered out of scope and not available as part of the AI training for initial launch.

6. Underwater, low frequency signals such as those to communicate with deployed submarines.

7. Support for acoustic analysis such as sound, sonar and ultrasound.

8. Multi-language support not available for initial launch

9. Cloud storage is not available due to HIPAA and military operational security concerns.

10. Clinical studies will be outsourced and not conducted by the core project team.

11. Engaging regulatory agencies outside of the U.S for initial launch.

2.4 PROJECT ASSUMPTIONS

● **Data Availability**: Sufficient high-quality spectral data for training and validating AI models will be accessible for both military and biotechnological applications.

● **Regulatory Compliance**: Necessary approvals will be obtained in a timely manner by the external partners.

● **Resource Availability**: Adequate resources, including skilled personnel and hardware infrastructure, will be available throughout the project lifecycle.

● **Stakeholder Support**: Key stakeholders, including military and biotechnological partners, will provide necessary support and collaboration for successful project execution.

● **No severe economic downturn**s/interest rate hikes above nominal levels/tax changes

Other assumptions are outlined below:

Areas	Assumptions
Technical	1. Access to cutting-edge AI and sensor technologies for seamless integration. 2. Ensuring that the chosen sensors are compatible with the unified platform.

	3. The successful creation and application of adaptive algorithms for processing spectral data. 4. Availability of high-performance computing resources for processing real-time data.
Management	1. Maintaining continuous backing and involvement from project sponsors and stakeholders. 2. Ensuring efficient collaboration and communication among cross-functional project teams. 3. Promptly making decisions to handle any emerging issues or changes in project scope.
Human Resources	1. Skilled personnel proficient in AI, spectral analysis, and biotechnological applications are readily available. 2. Project team members have access to ongoing training and opportunities for professional development. 3. There is minimal turnover among crucial project personnel to ensure continuity and expertise is maintained.
Costs	1. Sufficient funding has been obtained for the entire duration of the project, including procurement, development, testing, and validation. 2. Economic stability is in place to prevent substantial cost fluctuations for materials and services. 3. Effective management of the budget is being implemented to ensure optimal utilization of all financial resources.
Schedule	1. The procurement of sensors and other critical components is proceeding without any significant delays. 2. Each phase of the project is being completed on time as per the project timeline. 3. Any technical or logistical issues that arise during project execution are being efficiently resolved.
Performance	1. The spectral analysis platform will achieve or surpass established performance standards, including resolution, sensitivity, and accuracy. 2. Reliable AI-powered technologies will be operational, delivering improved pattern recognition and predictive analytics.

	3. Both laboratory and field environments will showcase the solidity and dependability of the integrated platform.
Relationships	1.Collaboration with biotechnology research institutions and military stakeholders is robust. 2. Partnerships with technology vendors and suppliers are highly effective. 3. Support from regulatory bodies and industry experts remains ongoing.

2.5 PROJECT CONSTRAINTS

Areas	Constraints
Security	Data Security: To ensure the protection of the sensitive military and biomedical data from cyber criminals. System Security: Prevent unauthorized access. Legal Compliance will possibly hamper the use of the AI platforms and development due to privacy laws and use of AI in sensitive fields like biomedicine.
Management	Scalability of the project will be one of the greatest constraints. In small field testing results may seem favorable, but when put into broader contexts can result in variable results and possible loss of human life. Adaptability for the platform is also in question, as both fields are constantly updating the information and decision factors based on new data.
Human Resources	Ensuring that proper legal steps are taken to vet employees on the project to secure the private matters and IP protections.
Costs	No severe economic downturns/interest rate hikes that stall the project due to capital management issues. Availability of necessary funding.

Performance	Data quality and availability: access to high quality data to train the AI model may be very difficult to come by for the biomedical applications due to patient privacy laws.
	Computational Constraints: Highly dependent on functioning supply chains and access to processors and memory.
	Interoperability: Ensure the AI can actually integrate with existing systems and tech.
Relationships	Stable relationships with vendors, compliance teams, human resources, and stakeholders.
	Trust and Acceptance: These factors are huge in AI regarding its reliability and ethical use.
Regulations	Ensuring safety, efficacy, and compliance with established guidelines by regulatory bodies

2.6 PROJECT RISKS

- AI-generated proteins may pose **unknown risks**, including unintended biological effects or allergenicity. Assessing and mitigating these risks is crucial for regulatory approval.

- Analysis of large amount of data to identify patterns and relationship that may not be apparent to humans

- The **intellectual property landscape** surrounding AI-generated proteins can be complex. There may be disputes over patents related to the AI models

- **Protecting proprietary data** used to train AI models, including confidential biological information, is essential for maintaining competitive advantage

- **Regulatory guidelines** specific to AI-generated proteins may be lacking or still under development.

- **Ethical consideration** ensuring that AI technologies are used ethically and responsibly is crucial.

- **Regulatory approval process** can be complex and lengthy. AI-generated proteins may face additional scrutiny due to their innovative nature.

- **Coordination Among Stakeholders** Effective regulation of AI-generated proteins requires collaboration among various stakeholders, including regulatory agencies, researchers, and industry experts.

- **Finding reliable external partners** for manufacturing the device and conducting pre-clinical studies, as well as for large-scale platform validation and clinical studies, is a challenging task

- **Competing technologies** with similar applications may pose risks

- **Timeline and schedule variation**

- **Change in the cost of wages and materials** due to the inflation over 5 years

2.7 MITIGATION PLAN

- **All risks should be ranked** according to their severity, frequency, and the effectiveness of the available mitigation strategies

- **Rigorous Testing and Documentation** thorough testing protocols and maintaining detailed documentation

- **Feasibility study and prototyping**

- **Define Clear Objectives and KPIs team** understands the specific goals and performance metrics for sensing capabilities, analytical accuracy, and data-driven decision-making. Also, prioritize features and focus on the most critical features

- **Engaging with Regulatory Bodies**

- **Developing Standards and Best Practices** for AI in biotechnology

- **Expanded portfolio with diverse applications** - agile development and rapid response to real-world feedback and emerging needs with focus on iterative cycles and flexibility

- **Continuous improvement** through regular retrospectives and feedback loops. This iterative refinement process helps enhance the platform's sensing capabilities, analytical accuracy, and decision-making support by incorporating lessons learned and adapting to new insights

- **Enhanced Collaboration and Communication** - regular communication and collaboration among team members, stakeholders, and end-users. Regular reviews

and demos with stakeholders, ensuring that the platform evolves in a way that meets their needs.

- **Strategic partnership** - Forming alliances or collaborations is crucial to enhance our position and utilize external expertise. It is essential to review the track record of potential candidates and seek expert advice to identify the most suitable external partners. Consider implementing penalty clauses and closely oversee the contractor's performance.

- **The schedule variation** should be closely monitored and contingency plans should be defined

- **Keep current with inflation-related information,** and ensure that contingency plans include adapting cost-effective strategies and identifying key cost drivers

- **Build a diverse portfolio** of products and opportunities to reduce reliance on any single item.

- **Tech risk management** should be thoroughly done through reading literature, surveys, talking to experts, and collecting feedback

2.7 Required Skills

1. Software Engineer

2. Data Engineer

3. Radio Frequency Design Engineer (Hardware Engineer)

4. Computational Biologist

5. Bioinformatician

6. Biology Subject Matter Expert

7. Patent Attorney

8. Business Development Manager

9. Software Program Manager

10. Biological Program Manager

11. HR services sourced externally

* More on skills and positions can be found on the supplementary Project Libre documents

3   WORK BREAKDOWN STRUCTURE

Please refer to the attached documents for the full Work Breakdown Structure (WBS) and Gantt charts. Note that the WBS and Gantt charts are divided into two primary, separate areas: Biotechnology and Military.