



Concept Summary
(Proprietary)

**“Named Laboratories” Limited Liability
Company (NLLC) with Affiliation to
Historically Black Colleges and
Universities and Minority Institutions
(HBCU/MI)**

(The) American Heritage Defense Corporation (AHDC)

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1. Background

This document is work in progress. A brainstorming meeting was held in Chicago at Boeing Headquarters on May 29, 2007, under the leadership of Ms. Joan Robinson-Berry, to discuss the merits of the “Named Laboratories” LLC (NLLLC) concept proposed by the American Heritage Defense Corporation. The following individuals representing their respective organizations were present at that meeting:

1. Joan Robinson-Berry¹ – Boeing Co.
2. Oliver Leslie² – Boeing Co.
3. Richard Hendel³ – Boeing Co.
4. Myron Hardiman⁴ – AMIE
5. Earl Peek – Diamond Ventures LLC
6. Anthony Robinson – MBELDEF⁵/AHDC
7. James Fabunmi – AHDC

At the conclusion of that meeting, it was recommended that a statement of requirements for NLLLC and a plan for a pilot implementation was needed, with input from all interested parties, in order to provide Ms. Robinson-Berry with information needed to enlist the participation of the Boeing Company and other major industry primes. The current draft is the initial response to this recommendation, subject to review and suggested revisions from all stakeholders in this initiative. Suggestions and comments should be directed to James A. Fabunmi <jfabunmi@alum.mit.edu> 301 249 2900.

2. Opportunity

While 10 USC 2323 and similar Federal legislations as well as various Presidential Executive Orders were intended to create opportunities for Historically Black Colleges and Universities and other Minority Institutions (HBCUs/MIs) to increase their capacity to participate in Federal contracting, available data shows that to date they have not been able to take advantage of these opportunities for a number of specific reasons. Although the provisions of these laws may have created potential research and development markets for the HBCUs/MIs, the infrastructure that would enable these institutions to fully take advantage of these opportunities have not been established. It is estimated that more than **\$3Billion**⁶ worth of research, development, test and evaluation business go untapped annually by HBCUs/MIs due to the lack of adequate business structures targeted at such opportunities. The concept for the “Named Laboratories” LLC (NLLLC) aims to establish a for-profit business enterprise that is structured in such a way as to capture as much of this untapped market as possible, while at the same time meeting

¹ Director for Supplier Diversity, Integrated Defense Systems, Boeing Company.

² HBCU/MI Program Manager, Boeing Company

³ SBIR Project Manager, Boeing Company

⁴ Executive Director, Advancing Minorities’ Interests in Engineering (AMIE)

⁵ Minority Business Legal Defense and Education Foundation

⁶ Federal Expenditures on Research, Development, Test and Evaluation (RDTE) annually is of the order of \$100Billion. A goal of 3% for HBCU/MI contracting per 10USC2323 alone would yield a market estimate of \$3Billion.

specific requirements that are critical for the participation of investors, industry partners, small business partners and the HBCUs/MIs themselves.

3. Requirements

The requirements that are necessary for NLLLC to be successful include: 1) Functional; 2) Business and Financial; 3) Organizational; 4) Federal Contracting; 5) Industry Incentives; 6) Science, Engineering, Technology and Workforce for America's Security (SETWAS); and 7) Physical Infrastructure Requirements.

3.1 Functional Requirements: NLLLC will serve three key functions – 1) **Hatchery**⁷ for new technology businesses that will feed the supply chain of major industry prime contractors; 2) Applied Research, Development, Test and Evaluation Centers of Excellence to support commercialization of new and innovative technologies; and 3) Management and Technical Support Service Provider to affiliated HBCUs/MIs that will enable them to participate more fully in Federal, State, Local and Commercial contracting opportunities.

3.2 Business and Financial Requirements: NLLLC will be a profitable enterprise that will satisfy the following four key business and financial requirements – 1) Intellectual Property Valuation, Management and Acquisition Infrastructure; 2) Attractive Exit Strategies for Venture Capital Investors; 3) “Named Laboratories” Endowment⁸; 4) Public and Private Equity Placements.

3.3 Organizational Requirements: NLLLC will be organized as a for profit Limited Liability Company (LLC), which will combine the favorable features of GOCO⁹, COCO¹⁰, and UARC¹¹ Federal Laboratories, with those of Industry Research and Development Laboratories (IRDL) such as Boeing's Phantom Works or Lockheed Martin's Skunk Works, without suffering the limitations associated with Federal or State Chartered not-for-profit establishments.

3.4 Federal Contracting Requirements: NLLLC will establish – 1) Contract Management Infrastructure for Unlimited Size Contracts; 2) Security Infrastructure for All Levels of Classification; 3) Cost Accounting Infrastructure that meet or exceed DCAA¹² Requirements.

3.5 Industry Incentives Requirements: NLLLC will provide incentives for major industry primes by creating opportunities for – 1) Small Business Subcontracting Credits; 2) HBCU/MI Subcontracting Credits; 3) Mentor-Protégé Relationships; 4) Risk

⁷ If by analogy, business Incubators help transition new ideas into businesses, a business Hatchery not only does this, but is also involved in generating those new ideas from applied research projects, as well as acquiring rights to the ideas of others to create new businesses.

⁸ An minimum endowment of \$100M will be required for naming rights.

⁹ GOCO – Government Owned, Contractor Operated

¹⁰ COCO – Contractor Owned, Contractor Operated

¹¹ UARC – University Affiliated Research Centers.

¹² DCAA – Defense Contract Audit Agency

Reduction for Technology Transfer from early stage development to integrated systems deployment.

3.6 Science, Engineering, Technology and Workforce Requirements: NLLLC will incorporate into its operations processes for developing future science, engineering and technology workforce by: 1) Utilizing teams of students from science, engineering and business disciplines as interns for the applied research, development and commercialization of new and advanced technologies; 2) Mentoring such teams of students to promote a culture of entrepreneurship, business and technological leadership; 3) Offering opportunities for students to work on real-life cutting edge technologies as part of their academic preparation for various careers in science, engineering, technology and business management.

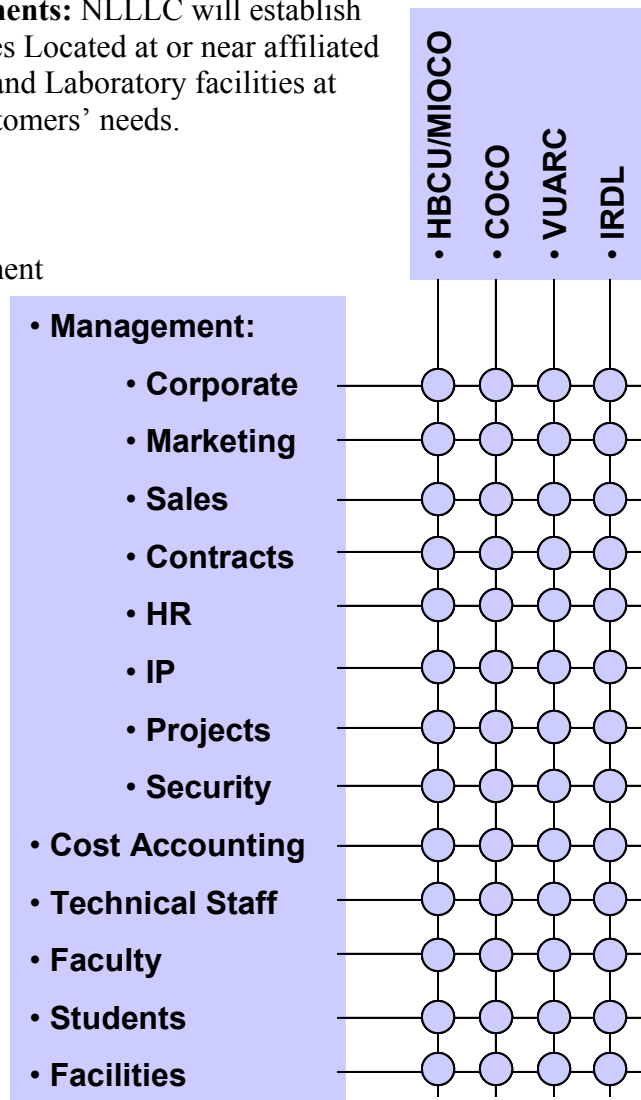
3.7 Physical Infrastructure Requirements: NLLLC will establish – 1) Multi-Campus Laboratory Facilities Located at or near affiliated HBCU/MI campuses; 2) Management and Laboratory facilities at other locations that are suited to its customers’ needs.

4. Operations

NLLLC operations will share management (corporate, marketing, sales, contracts, human resources (HR), intellectual property (IP), projects, security etc.), cost accounting, technical staff, faculty, students, and facilities across four business units: HBCU/MIOCO¹³-, COCO-, VUARC¹⁴- and IRDL- type applied research centers (see schematic).

4.1 HBCU/MIOCO Operations:

This business unit will provide management and technical support services under contract to affiliated HBCUs/MIs to market, capture and close-out applied research contracting opportunities from federal, state and local governments and industry, as well as recruit and manage technical staff and develop facilities to execute those contracts. Technical staff and facilities acquired under this business unit will be owned by the



¹³ HBCU/MIOCO – HBCU/MI Owned, Contractor Operated

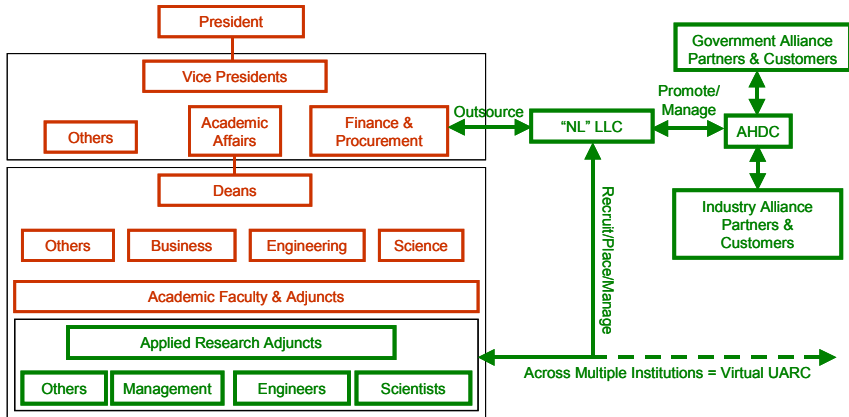
¹⁴ VUARC – Virtual University Affiliated Research Center

HBCUs/MIs, and will represent the basis for revenues to HBCU/MI to meet the required goals of government and industry.

4.2 COCO Operations: As a for-profit small business (NAICS¹⁵ 541710 - Research and Development in Physical, Engineering and Life Sciences Small Business; Size Standard = 500 Employees) NLLLC will market, capture, execute and close-out applied research and development contracts for federal, state and local governments, as well as industry and other commercial customers. These operations will involve significant collaboration with small business and industry partners, particularly with regard to commercialization of SBIR/STTR¹⁶ funded technologies.

4.3 VUARC Operations:

This is similar to HBCU/MIOCO operations with the difference being that multiple HBCU/MI are targeted collaboratively to provide applied research and development services to support a particular federal government agency, at the initiative of the federal agency (see schematic).



4.4 IRDL Operations: NLLLC will conduct independent applied research and development projects aimed at developing new proprietary technologies, and other intellectual property that will generate profit for its investors. These operations also will involve significant collaboration with small business and industry partners, and will support the creation of new technology small businesses that feed the industry supply chain.

5. Proposed Plan and Required Funding

A multiphase plan is proposed for the implementation of NLLLC: 1) Planning phase; 2) Pilot phase; 3) Full capacity phase.

5.1 Planning Phase: The following tasks will be accomplished during a 12-month planning phase – 1) Development of agreements and memoranda among founding investors and partners (e.g. identifying and securing the buy-in of affiliated HBCUs/MIs that will be participating in the pilot phase efforts); 2) Head-hunting and recruitment of start-up corporate, marketing and sales management team; 3) Meetings and briefings to raise funds for the Pilot Phase; 4) Company registration and acquisition of necessary operating licenses; 5) Marketing and development of proposals for pilot phase projects.

¹⁵ NAICS – North American Industry Classification System

¹⁶ Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR)

The American Heritage Defense Corporation will establish an NLLLC planning advisory board to initiate these planning tasks, up to the point when NLLLC becomes fully registered and certified for conducting business, at which time the remaining planning tasks will be performed by the start-up management team.

The estimated funding required for the 12 month planning period is \$(TBD¹⁷) million, to include consulting fees and travel expenses for members of the planning advisory board, salaries (as well as sign-up bonuses) and benefits for the NLLLC start up management team, attorney's fees and other costs for registration and certification of NLLLC and other operating costs for NLLLC after it has started its operations (e.g. rent, utilities, office equipment, staff support etc).

5.2 Pilot Phase: Over the period of a two-year pilot phase, NLLLC will be affiliated with a select number of HBCUs/MIs (no more than three, based on existing technical capabilities, top level buy-in and considerations of customer requirements) to market, win, and execute one or more contracts under each of the business units described in Section 3. During this pilot phase, additional management staff will be recruited for contracts, human resources (HR), intellectual property (IP), project management, personnel security and cost accounting, as well as professional technical staff as required to perform on these projects. Processes will be established for recruiting students, orienting and mentoring them, and engaging them as apprentices and interns working side-by-side with technical and management staff. A subset of the professional technical and management staff will be designated adjunct faculty of the affiliated HBCU/MI to meet any requirements of HBCU/MI participation as needed. The overall objective of the pilot phase will be to exercise all elements of the functionalities and operations of NLLLC, so that the groundwork could be laid for growth and full-scale operation. A target sales volume of at least \$20M per year averaged over the two-year pilot phase will be considered a success.

Additional investment of \$(TBD¹⁸) million will be required to launch the pilot phase. These funds are needed to hire the additional management staff and key technical personnel (rainmakers¹⁹) who will spearhead the proposal development efforts for the projects anticipated in this phase. There will also be a need for NLLLC to negotiate and acquire rights to intellectual property owned by potential small business and other industry partners in order to secure their participation in the proposed alliance. Incoming contracts will be used to finance operating expense using contracts receivable loans from banks and other financial institutions.

5.3 Full Capacity Phase: NLLLC expects to gross \$1 Billion in sales at full capacity. Full capacity is expected no later than 10 years after start-up. Detailed proposals for the growth phases leading up to this capacity will be developed at the appropriate times.

¹⁷ This amount will be determined when agreements on the scope of the planning phase have been reached.

¹⁸ This amount will be determined when the detailed pilot proposal is developed during the planning phase.

¹⁹ These are individuals with the expertise and connections to attract significant funding to the Laboratory.