



Request for Proposal #0032038

for:

Laboratory Information Management System
for the Genomics Research Laboratory
At the Virginia Bioinformatics Institute

August 21, 2014

RFP #0032038
GENERAL INFORMATION FORM

1. **QUESTIONS:** All inquiries for information regarding this solicitation should be directed to: Barbara J. Layman, CPPO, CPPB, VCO, e-mail barbl66@vt.edu, phone 540.231.9517.
2. **DUE DATE:** Sealed Proposals will be received until October 1, 2014 at 3:00 pm. Failure to submit proposals to the correct location by the designated date and hour will result in disqualification.
3. **ADDRESS:** Proposals should be mailed or hand delivered to: Virginia Polytechnic Institute And State University (Virginia Tech), Information Technology Acquisitions, 1700 Pratt Dr. (0214), Blacksburg, Virginia 24061. Reference the Opening Date and Hour, and RFP Number in the lower left corner of the return envelope or package.
4. **PRE-PROPOSAL CONFERENCE:** See Section IX for information regarding a pre-proposal conference.
5. **TYPE OF BUSINESS:** (Please check all applicable classifications). If the Virginia Department of Minority Business Enterprise certifies your classification, provide your certification number: _____. For certification assistance, please visit: <http://www.dmb.e.state.va.us/swamcert.html>.

- _____ **Large**
- _____ **Small business** – An independently owned and operated business which, together with affiliates, has 250 or fewer employees or average annual gross receipts of \$10 million or less averaged over the previous three years. Department of Minority Business Enterprise (DMBE) certified women-owned and minority-owned business shall also be considered small business when they have received DMBE small business certification.
- _____ **Women-owned business** – A business concern that is at least 51% owned by one or more women who are U. S. citizens or legal resident aliens, or in the case of a corporation, partnership, or limited liability company or other entity, at least 51% of the equity ownership interest is owned by one or more women who are citizens of the United States or non-citizens who are in full compliance with the United States immigration law, and both the management and daily business operations are controlled by one or more women who are U. S. citizens or legal resident aliens.
- _____ **Minority-owned business** – A business concern that is at least 51% owned by one or more minority individuals (see Section 2.2-1401, Code of Virginia) or in the case of a corporation, partnership, or limited liability company or other entity, at least 51% of the equity ownership interest in the corporation, partnership, or limited liability company or other entity is owned by one or more minority individuals and both the management and daily business operations are controlled by one or more minority individuals.

6. **COMPANY INFORMATION/SIGNATURE:** In compliance with this Request For Proposal and to all the conditions imposed therein and hereby incorporated by reference, the undersigned offers and agrees to furnish the goods and services in accordance with the attached signed proposal and as mutually agreed upon by subsequent negotiation.

FULL LEGAL NAME (PRINT) <small>(Company name as it appears with your Federal Taxpayer Number)</small>		FEDERAL TAXPAYER NUMBER (ID#)	
BUSINESS NAME/DBA NAME/TA NAME <small>(If different than the Full Legal Name)</small>		FEDERAL TAXPAYER NUMBER <small>(If different than ID# above)</small>	
BILLING NAME <small>(Company name as it appears on your invoice)</small>		FEDERAL TAXPAYER NUMBER <small>(If different than ID# above)</small>	
PURCHASE ORDER ADDRESS		PAYMENT ADDRESS	
CONTACT NAME/TITLE (PRINT)		SIGNATURE (IN INK)	DATE
E-MAIL ADDRESS	TELEPHONE NUMBER	TOLL FREE TELEPHONE NUMBER	FAX NUMBER TO RECEIVE E-PROCUREMENT ORDERS

- I. **PURPOSE:** The purpose of this Request for Proposal (RFP) is to solicit sealed proposals to establish a negotiated contract for a laboratory information management system (LIMS) and related support. This LIMS software system will be placed into operation at the Genomics Research Laboratory (GRL), a 6,500 square foot state-of-the-art facility located in the Virginia Bioinformatics Institute (VBI) at Virginia Tech.
- II. **CONTRACT PERIOD:** The term of the services contract or contracts will be for five years, or as negotiated. There will be an option for five, one-year renewals, or as negotiated.
- III. **BACKGROUND:**
 - a. **University Overview:** Founded in 1872 as a land-grant college, Virginia Tech (www.vt.edu) is the most comprehensive university in the Commonwealth of Virginia, and is among the top research universities in the nation. Virginia Tech's nine colleges are dedicated to quality, innovation, and results through teaching, research, and outreach activities. At its 2,600 acre main campus located in Blacksburg and other campus centers in Northern Virginia, Southwest Virginia, Hampton Roads, Richmond, Southside, and Roanoke, Virginia Tech enrolls more than 28,000 undergraduate and graduate students from all 50 states and more than 100 countries in 180 academic degree programs.
 - b. **Genomics Research Laboratory at Virginia Bioinformatics Institute Overview:** The Genomics Research Laboratory (GRL) at Virginia Bioinformatics Institute (VBI) at Virginia Tech, a 6,500 square-foot is part of the 154,000 square-foot, state-of-the-art research facility at the VBI. GRL scientists are specialists in the development and application of cutting-edge *Next-Generation Sequencing* and bioinformatics technologies. The GRL is a dedicated multi-user resource for the development and application of state-of-the-art high-throughput technologies, providing researchers access to these services and its highly trained staff. The GRL provides high quality data, analysis, and experimental design assistance in a timely fashion while maintaining excellent customer service.
 - c. **Environment:** Virginia Tech has undertaken a major effort to achieve excellence in the delivery of administrative services within a framework that focuses on satisfying customer requirements, empowering the faculty and work force, and continuously improving service delivery processes.

Information systems and technology will be used to facilitate and encourage the re-design of administrative processes rather than merely to automate current methods. Our goal is to ensure that neither work effort nor information is unnecessarily duplicated, that controls that remain in place are required for valid business reasons, and that technology not only transports information seamlessly through each required step in a process, but also makes the information readily accessible to appropriate individuals.

The GRL is currently utilizing a LIMS within its processes, however, it has reached end-of-life and is no longer supported by the manufacturer. Additionally, the current system no longer possesses the capabilities necessary to support current laboratory and research processes. Therefore, the GRL has a need to implement a new LIMS to further advance process and inventory management efficiencies, support detailed laboratory protocols and workflows, provide extensive reporting capabilities, and facilitate web-based customer interaction. Once installed, the LIMS should not require information technology professionals to maintain daily work activities within the system. Rather, the system should be fully functioning and operable by the end-users, the lab technicians and management. Maintenance from IT staff should only be required for network activities, backup functions, and infrequent patches, updates, and upgrades.

IV. EVA BUSINESS-TO-GOVERNMENT ELECTRONIC PROCUREMENT SYSTEM: The eVA Internet electronic procurement solution streamlines and automates government purchasing activities within the Commonwealth of Virginia. Virginia Tech, and other state agencies and institutions, have been directed by the Governor to maximize the use of this system in the procurement of goods and services. *We are, therefore, requesting that your firm register as a trading partner within the eVA system.*

There are registration fees and transaction fees involved with the use of eVA. These fees must be considered in the provision of quotes, bids and price proposals offered to Virginia Tech. Failure to register within the eVA system may result in the quote, bid or proposal from your firm being rejected and the award made to another vendor who is registered in the eVA system.

Registration in the eVA system is accomplished on-line. Your firm must provide the necessary information. Please visit the eVA website portal at www.eva.state.va.us and complete the Ariba Commerce Services Network registration. *This process needs to be completed before Virginia Tech can issue your firm a Purchase Order or contract.* If your company conducts business from multiple geographic locations, please register these locations in your initial registration.

To register or obtain assistance, visit eVACustomerCare@dgs.virginia.gov or call 866-289-7367 or 804-371-2525.

V. CONTRACT PARTICIPATION: It is the intent of this solicitation and resulting contract(s) to allow for cooperative procurement. Accordingly, any public body, public or private health or educational institutions, or Virginia Tech's affiliated corporations may access any resulting contract(s) if authorized by the contractor.

Participation in this cooperative procurement is strictly voluntary. If authorized by the Contractor, the resultant contract(s) may be extended to the entities indicated above to purchase at contract prices in accordance with contract terms. The Contractor shall notify Virginia Tech in writing of any such entities accessing the contract. The Contractor will provide semi-annual usage reports for all entities accessing the Contract. Participating entities shall place their own orders directly with the Contractor and shall fully and independently administer their use of the contract to include contractual disputes, invoicing and payments without direct administration from Virginia Tech. Virginia Tech shall not be held liable for any costs or damages incurred by any other participating entity as a result of any authorization by the Contractor to extend the contract. It is understood and agreed that Virginia Tech is not responsible for the acts or omissions of any entity, and will not be considered in default of the contract no matter the circumstances.

Use of this contract does not preclude any participating entity from using other contracts or competitive processes as the need may be.

The resulting contracts will be optional use contracts. The Users of the contract(s) named in the Statement of Needs are in no way required to make purchases from the Contractor(s) and may in their sole discretion purchase the identical and/or similar goods/services from other sources. Any estimates/quantities contained herein do not represent a purchase commitment by the Users of the contract(s).

VI. STATEMENT OF NEEDS

A. Functional Modules: Virginia Tech requires functional modules 1, 2, 5, and 6 outlined below. Describe fully your system's capabilities in each of these areas.

1. Customer Web Portal:

- a. Does your system allow the user to create projects and create new work within a project? If so, explain in detail.
- b. Does your system interface include both required and customizable fields for sample and project details? For example, sample meta data including customer sample name, volume, concentration, project billing information, gel image upload, project quotes. If so, explain in detail.
- c. Does your system interface allow uploading of sample sheets for multiple files or does it require manual entering of single (few) to batched samples? Describe fully.

2. Sample Management:

- a. Describe your system's ability to accept the following:
 - i. Full sample genealogy
 - ii. sample storage
 - iii. sample pooling
 - iv. Identification
 - v. Aliquot
 - vi. library pooling etc.
 - vii. Integration with automated 2D barcode reader
 - viii. BioMicro XL9 tube sorter
 - ix. epMotion M5073.
- b. Does your system have the capability to generate barcodes? If so, explain in detail.

3. Instrument Management: Describe your system's capability to manage:

- a. Instrument and reagent vendor details
- b. Instrument and reagent procurement details
- c. PM and maintenance schedules and alerts
- d. Up & down time tracking

4. Tracking: Does your system have the ability to track Instruments, Resources, Samples Preps, Sequencing? If so, explain in detail.

5. Customer/PI Service request Management: Describe and provide examples of how user's and customer's initiate service requests.

6. Pre configured and on demand reports:

- a. Describe and provide examples of your system's reporting capability. Confirm that the following standard or "canned" reports are included:
 - Sample and reagent inventory
 - projects in process
 - complete projects
 - NGS instrumentation run quality metrics and history
- b. Describe the process for creating customer generated project reports.
- c. Are reports exportable?

B. Sanger and NGS Specific Modules: Virginia Tech requires Sanger and NGS modules 2 - 6 outlined below. Describe fully your system's capabilities in each of these areas.

1. Inventory Tracking: Describe your system's capabilities regarding:

- a. Sanger and NGS Inventory
- b. Inventory restocking
- c. Kit management and usage tracking
- d. Integration with vendor kit manifests (Illumina)
- e. Enabling queries for generating reports.

2. **NGS Setup:** Your system must manage Sample pooling, multiplexing, tags/barcodes validation, clusters prep. Describe/discuss in detail.
3. **Preconfigured NGS workflows:** Your system must provide out-of-the-box workflows for most widely used workflows. Describe/discuss in detail.
 - a. Describe your system's capabilities regarding the following workflows:
 - i. TruSeq RNA (mRNA stranded, small RNA workflows)
 - ii. DNA library preps (DNA libraries, ChIP-Seq libraries)
 - iii. Exome capture (Agilent)
 - iv. sample pooling and sample sheet generation
 - v. commonly used sequencing workflows on HiSeq (High output and Rapid runs) and MiSeq (SR/PE 50/100/150/200/300 cycle sequencing)
 - b. Describe, in detail, the system's capability to customize workflows
4. **Instrument Interfacing:** Does your system interface with other systems? Describe this process in detail, specifically the ability to interface with the following:
 - a. Illumina HiSeq and MiSeq
 - b. Adaptability and flexibility interfacing with existing alternative NGS platforms
 - c. Other peripheral instrumentation listed in the Instrument List
5. **QC and NGS Data Capture:** Describe in detail your system's capabilities in regards to the following:
 - Post sequencing automatic data capture of QC runs
 - File types: txt, .sff, .abi, .fsa, pdf
 - Agilent TapeStation and BioAnalyzer files
 - Ability to upload run QC reports. Weblinks to NGS FASTQ files.
6. **NGS reports:** Your system must be capable of providing the following reports: Provide example of each report.
 - sample flow
 - cluster reports
 - sequencing reports
 - QC reports
 - service request
 - Costing and Invoice reports
 - Ability to add additional QC plots/reports
7. **Sanger Setup workflows and Reports:** Does your system interface and/or integrate with epMotion robot and barcode scanner? If so, describe fully.

C. Configuration of LIMS Workflows: Virginia Tech requires configuration of the workflows outlined below. Describe fully your system's capabilities in each of these areas.

1. **SOP/Protocol Management:** SOP/Protocol management is required. Is it customizable for new SOP's? Describe/discuss in detail.
2. **Workflow design:** Describe your system's process for designing workflows. Touch on the following topics:
 - a. New workflow customization process
 - b. New workflow testing/validation process. Describe how this is accomplished without impacting current operations
 - c. Fail steps, potential for resubmissions and forked workflows (decision trees)
 - d. Manual override of any automatic decisions
 - e. Query tools, fully describe.
 - f. Process to create automated workflows that can demultiplex reads, create sample sheets for sequencing instrumentation, or incorporate specific open source and commercial analysis pipelines

3. **Report and Invoice templates:** Your system must have the capability for the user/customer to customize and save reports. Describe fully.
4. **Compliance**
 - a. Is your system compliant to GLP? If so, describe fully.
 - b. Describe fully the system's capabilities regarding audit trails, user logs and system logs.

D. Administration: Describe fully your system's capabilities in the area of system administration, dashboards and user and data security.

1. User Management: Explain each in detail.

a. Lab Users:

- i. Describe the process to access data for the following tasks:
 - track sample status
 - determine which samples can be prepared together
 - simplify creation of library pools for multiplexed sequencing runs
 - access and review past work
- ii. Does your system include dashboards? If so, describe fully. Include information on addressing the following inquiries:
 - "What experiments to carry out today?"
 - "What work is coming for planning ahead?"
 - "Which libraries to be pooled together for a multiplexed run?"
 - "Is good data being generated from the run just started?"

b. Lab managers:

- i. Describe fully any dashboard differences for users vs. managers. Explore the high level information provided as well as an explanation of the capability of the manager to drill into activities for more specific results and/or metrics
 1. Describe fully the manager's capabilities in regards to reporting and project management tools to manage invoicing and administrative reporting.
 2. Describe the manager-dashboards ability to answer the following questions:
 - "What the quality of data coming off that new sequencer?"
 - "What's the status on the project we've been running for our new collaborator?"
 - "Where are the results from that experiment we did six months ago?"

c. Customer, PI and PI staff, and Collaborators: Does your system have a "web portal" to allow appropriate users access to data? If so, describe fully, keeping the following desired features in mind:

- i. outside collaborators have immediate access to data relevant to their projects, while protecting the broader project data accumulated by the servicing lab
- ii. outside collaborators can initiate work requests, inquire about project status and view project summaries.
- iii. Outside collaborators should be able to answer such questions as:
 - "Is my project finished yet?"
 - "Are there any results available to download?"
 - "I have additional details to provide – how can I get them to someone else?"

d. Vendor management: Does your system enable tracking of inventory, vendor quotes, invoices and manifests? If so, describe fully.

2. Role Management: Describe fully, providing details, screen shots, examples, etc. all predefined and configurable roles (lab staff, customers, collaborators, etc.)

3. **Utilities: Utility Tools are required. Explain your system's utility tools in detail.** Describe fully, providing details, screen shots, examples, etc., all system utilities (ID & 2D Barcodes, Tasks list, Dashboards, Email / SMS notifications, etc.)
4. **Administrator Roles:** Describe fully, providing details, screen shots, examples, etc. all predefined administrator roles (ability to manage settings, configurations, fields, modules, vocabulary, etc.).

E. Software and IT Functions

1. **Implementation of web-based, browser-independent solution:** Is your system web-based and browser-independent? If so, describe fully, keeping these statements in mind.
 - a. Describe the various interface methods that users can interact with the system
 - b. Describe the underlying frameworks that provide user interaction with the system
 - c. Describe the underlying frameworks for the portals
2. **Compatibility with portable devices:** Is your system fully compatible with laptops, tablets and smart phones? If so, describe fully, keeping these statements in mind.
 - a. List the supported devices such as tablets, pads and phones
 - b. How do these devices interact with the system (ie custom applications or web portals)?
3. **API Coding:** Does your system allow for easy generation of API's for faster/secured data exchange with third party software and instruments? If so, describe fully, keeping these statements in mind.
 - a. Describe the flexibility of the system APIs to interface with other hardware/software.
 - b. Describe the process to add third party hardware/software.
 - c. Describe the process to add "request for extensions" to the API to work with currently unsupported hardware/software.
4. **Database Independent Solution:** Is your system database-independent? If so, describe fully, keeping the following statements in mind.
 - a. How would the university's data would be stored by your LIMS?
 - b. Your system must be compatible with IBM TSM back-up and archive. Confirm that your system meets this requirement and describe all system options for data back-up.
 - c. Describe how our data can be extracted for use outside of your LIMS.

F. Integration With VBI/VT Infrastructure. The system must be successfully integrated into VT/VBI infrastructure and operating procedures. Provide details on how the system works with or operates in the following areas

1. Describe authentication services used by the LIMS.
 - a. Can the system be used with centralized LDAP and/or Active Directory services? If so, how?
 - b. What methods of authentication are available for different portal views? Can they be independent? Describe fully.
2. Does your system interoperate with remote file systems such as NFS and CIFS? If so, describe all compatible remote file systems.
3. The LIMS system must support enterprise operating systems, such as RedHat Enterprise Linux or SUSE Linux Enterprise Server. Describe which operating systems are supported
 - a. Describe fully all update processes.
 - b. Does the LIMS keep up-to-date with OS vendor supplied updates and security patches? If so, describe fully.
4. Can Finance related data be exported? If so, describe the metadata export process (CSV, MS Excel, TXT).
5. Does your system allow for customizable access control (ie administrators, customers, lab users). If so, describe fully.
6. Does your system operate on server-class hardware? If so, provide minimum hardware requirements.

- G. Vendor Technical Implementation and Implications on Long-Term Support:** VT/VBI seeks a partnership for the purchase, implementation and long-term support of a new LIMS. As such, we request a narrative and a sample project plan detailing the following project tasks:
- | | |
|--|--------|
| 1. Initial system installation and workflow set-up | Vendor |
| 2. System Training (administrator, train-the-trainer, etc.) | Vendor |
| 3. Ongoing maintenance and upgrades | Vendor |
| 4. Assist with installation (and on-going support) | VBI IT |
| 5. Provide clear technical requirements for hardware and operating system required to run the application | Vendor |
| 6. Updates that do not affect database (easy update policy) | Vendor |
| 7. Support offered (hours, process, etc.) | Vendor |
| 8. Specialized services available (ie for work flow changes) | Vendor |
| 9. Proven track record of providing and supporting genomics LIMS systems. Provide references as required herein. | Vendor |
| 10. Must meet VT policies for secure software purchasing | Vendor |

VII. PROPOSAL PREPARATION AND SUBMISSION:

A. General Requirements:

1. RFP Response: In order to be considered for selection, Offerors must submit a complete response to this RFP. One original, five copies (hard and electronic) in generally used formats (CD, DVD, USB Flash Drive) of each proposal must be submitted to:

Virginia Tech
 Information Technology Acquisitions (0214)
 1700 Pratt Drive
 Blacksburg, VA 24061

Reference the Opening Date and Hour, and RFP Number in the lower left hand corner of the return envelope or package. The Offeror shall make no other distribution of the proposals.

2. Proposal Preparation:
 - a. An authorized representative of the Offeror shall sign proposals. All information requested should be submitted. Failure to submit all information requested may result in Virginia Tech requiring prompt submission of missing information and/or giving a lowered evaluation of the proposal. Virginia Tech may reject proposals that are substantially incomplete or lack key information at its discretion. Mandatory requirements are those required by law or regulation or are such that they cannot be waived and are not subject to negotiation.
 - b. Proposals should be prepared simply and economically providing a straightforward, concise description of capabilities to satisfy the requirements of the RFP. Emphasis should be on completeness and clarity of content.
 - c. Proposals should be organized in the order in which the requirements are presented in the RFP. All pages of the proposal should be numbered. Each paragraph in the proposal should reference the paragraph number of the corresponding section of the RFP. It is also helpful to cite the paragraph number, subletter, and repeat the text of the

requirement as it appears in the RFP. If a response covers more than one page, the paragraph number and subletter should be repeated at the top of the next page. The proposal should contain a table of contents that cross references the RFP requirements. Information that the Offeror desires to present that does not fall within any of the requirements of the RFP should be inserted at an appropriate place or be attached at the end of the proposal and designated as additional material. Proposals that are not organized in this manner risk elimination from consideration if the evaluators are unable to find where the RFP requirements are specifically addressed.

- d. Each copy of the proposal should be bound in a single volume where practical. All documentation submitted with the proposal should be bound in that single volume.
 - e. Ownership of all data, material and documentation originated and prepared for Virginia Tech pursuant to the RFP shall belong exclusively to Virginia Tech and be subject to public inspection in accordance with the Virginia Freedom of Information Act. Trade secrets or proprietary information submitted by an Offeror shall not be subject to public disclosure under the Virginia Freedom of Information Act. However, to prevent disclosure the Offeror must invoke the protections of Section 2.2-4342F of the Code of Virginia, in writing, either before or at the time the data or other materials is submitted. The written request must specifically identify the data or other materials to be protected and state the reasons why protection is necessary. The proprietary or trade secret material submitted must be identified by some distinct method such as highlighting or underlining and must indicate only the specific words, figures, or paragraphs that constitute trade secret or proprietary information. The classification of an entire proposal document, line item prices and/or total proposal prices as proprietary or trade secrets is not acceptable and may result in rejection of the proposal.
3. Oral Presentation: Offerors who submit a proposal in response to this RFP may be required to give an oral presentation of their proposal to Virginia Tech. This will provide an opportunity for the Offeror to clarify or elaborate on the proposal but will in no way change the original proposal. Virginia Tech will schedule the time and location of these presentations. Oral presentations are an option of Virginia Tech and may not be conducted. Therefore, proposals should be complete.

B. Specific Requirements: Proposals should be thorough and detailed so that Virginia Tech may properly evaluate your capabilities to provide the required goods and services. Offerors are required to submit the following information/items as a complete proposal:

1. The return of the General Information Form and addenda, if any, completed and signed.
2. The return of the completed Virginia Tech Security Questionnaire for Technology-based Procurements (Attachment D)
3. Provide a detailed pricing structure for all components of the solution as proposed over the multi-year contract period using your best or better discounted pricing and applying all additional discounts available for state government and higher education. (Attachment E)
 - a. Include pricing for all goods and services, such as hosted software services, additional users, recurring fees, training provided to the university, implementation, support and maintenance, warranty service and any additional fees for use of your company's solution requested by Virginia Tech.

4. Describe in detail the factors that can influence pricing, such as feature/function options, add-ons, number of users, or system scaling costs.
5. Describe how the university will be billed for administrative costs and university incurred fees associated with the program.
6. Offeror Information
 - a. Company profile
 - 1) Concisely describe the company, including its history, origin, and any affiliation to other corporate entities.
 - 2) Provide the owners' and/or principal officers' names, length of time in the research administration field, and any other pertinent information.
 - 3) Describe the staff of the company in terms of total FTEs and the percentage of FTE staff among sales, research and development, support, and other functions.
 - 4) If the company is currently for sale or involved in any transactions to expand or to be acquired by another organization, please explain.
 - 5) If you have a Formal Business Continuity Plan, please provide.
 - 6) Describe the company's strategy for keeping up with industry changes.
 - 7) Describe the procedure for developing new features, including how customer input is taken, evaluated, and weighed.
 - b. Strategic partnerships/test sites – List any partnerships with third-party contractors, including a brief description of the services they provide.
 - c. Annual reports/Financial data – Provide the company's three most recently audited financial statements and the most recent annual report to governing boards/shareholders.
 - d. Users groups – Provide contact information for users groups, including website or listserv addresses. Provide the URL for any website that provides information on the company, press releases, and product information that is relevant to this proposal.
 - e. Customers
 - 1) Describe your implementation experience with institutions of higher education.
 - 2) Provide a list of three universities with similar systems. Include the client name, address and the name and phone number of the individual Virginia Tech has your permission to contact.
 - 3) Provide the names and contact information of any academic customers who have switched to another vendor and system within the last three years.
7. Responses to the requirements in Section VI, formatted as noted above in Paragraph VII.A.2
8. Any other supporting information as noted in Paragraph VII.A.2.c.
9. Any proposed exceptions to the RFP terms and conditions.
10. Small, Women-owned and Minority-owned Business (SWAM) Utilization: If your business cannot be classified as Small, Women-owned, or Minority-owned, describe your plan for utilizing SWAM businesses if awarded a contract. Describe your ability to provide statistical reporting on actual SWAM subcontracting when requested. If your firm or any business that you plan to subcontract with can be classified as SWAM, but has not been certified by the Virginia Department of Minority Business Enterprise, it is expected that the certification process will be initiated no later than the time of the award.

VIII. SELECTION CRITERIA AND AWARD:

A. Selection Criteria:

Proposals will be evaluated by Virginia Tech using the following:

Criterion	Max. Point Score
System Features, Functionality, Ease of Use	25
System Scalability, Extensibility, Manageability	25
Price	20
Vendor Qualifications/Training & Support	15
Security & Audit	5
SWAM utilization	10
	100

B. Award: Selection shall be made of two or more Offerors deemed to be fully qualified and best suited among those submitting proposals on the basis of the evaluation factors included in the Request for Proposal, including price, if so stated in the Request for Proposal. Negotiations shall then be conducted with the Offerors so selected. Price shall be considered, but need not be the sole determining factor. After negotiations have been conducted with each Offeror so selected, Virginia Tech shall select the Offeror, which, in its opinion, has made the best proposal, and shall award the contract to that Offeror. Virginia Tech may cancel this Request for Proposal or reject proposals at any time prior to an award. Should Virginia Tech determine in writing and in its sole discretion that only one Offeror has made the best proposal, a contract may be negotiated and awarded to that Offeror. The award document will be a contract incorporating by reference all the requirements, terms and conditions of this solicitation and the Contractor's proposal as negotiated. See Attachment B for sample contract form.

IX. INVOICES: Invoices for goods or services provided under any contract resulting from this solicitation shall be submitted to:

Virginia Polytechnic Institute and State University
Controller's Office (MC 0312)
300 Turner Street, NW North End Center
Blacksburg, VA 24061

X. ADDENDUM: Any **ADDENDUM** issued for this solicitation may be accessed at <http://www.ita.vt.edu/vtens-rfp.html>. A paper copy may not be mailed to you; you are encouraged to check the web site regularly.

XI. CONTRACT ADMINISTRATION:

- A. Barbara J. Layman, CPPO, CPPB, VCO shall be identified as Contract Administrator and shall use all powers under the contract to enforce its faithful performance.
- B. The Contract Administrator, or his/her designee, shall determine the amount, quantity, acceptability, and fitness of all aspects of the services and shall decide all other questions in

connection with the services. The Contract Administrator, or his/her designee, shall not have authority to approve changes in the services which alter the concept or which call for an extension of time for this contract. Any modifications made must be authorized by a written amendment to the contract.

XII. TERMS AND CONDITIONS: This solicitation and any resulting contract/purchase order shall be governed by the attached terms and conditions.

XIII. ATTACHMENTS:

Attachment A – Terms and Conditions

Attachment B – Standard Contract Form

Attachment C – Security Questions for Technology Based Procurements

Attachment D – Pricing Spreadsheet

ATTACHMENT A

TERMS AND CONDITIONS

RFP General Terms and Conditions

See http://www.procurement.vt.edu/html.docs/terms/GTC_RFP_06142013.pdf

Special Terms and Conditions

1. **AUDIT:** The Contractor hereby agrees to retain all books, records, and other documents relative to this contract for five (5) years after final payment, or until audited by the Commonwealth of Virginia, whichever is sooner. Virginia Tech, its authorized agents, and/or the State auditors shall have full access and the right to examine any of said materials during said period.
2. **AVAILABILITY OF FUNDS:** It is understood and agreed between the parties herein that Virginia Tech shall be bound hereunder only to the extent of the funds available or which may hereafter become available for the purpose of this agreement.
3. **CANCELLATION OF CONTRACT:** Virginia Tech reserves the right to cancel and terminate any resulting contract, in part or in whole, without penalty, upon 60 days written notice to the Contractor. In the event the initial contract period is for more than 12 months, either party, without penalty, may terminate the resulting contract after the initial 12 months of the contract period upon 60 days written notice to the other party. Any contract cancellation notice shall not relieve the Contractor of the obligation to deliver and/or perform on all outstanding orders issued prior to the effective date of cancellation.
4. **CONTRACT DOCUMENTS:** The contract entered into by the parties shall consist of the Request for Proposal including all modifications thereof, the proposal submitted by the Contractor, the written results of negotiations, the Commonwealth Standard Contract Form, all of which shall be referred to collectively as the Contract Documents.
5. **INSURANCE:**
By signing and submitting a proposal under this solicitation, the Offeror certifies that if awarded the contract, it will have the following insurance coverage at the time the work commences. Additionally, it will maintain these during the entire term of the contract and that all insurance companies authorized to sell insurance in Virginia by the Virginia State Corporation Commission will provide coverage.

During the period of the contract, Virginia Tech reserves the right to require the Contractor to furnish certificates of insurance for the coverage required.

INSURANCE COVERAGES AND LIMITS REQUIRED:

- A. Worker's Compensation – Statutory requirements and benefits.
- B. Employers Liability – \$100,000.00
- C. General Liability – \$500,000.00 combined single limit. Virginia Tech and the Commonwealth of Virginia shall be named as an additional insured with respect to goods/services being procured. This coverage is to include Premises/Operations Liability, Products and Completed Operations Coverage, Independent Contractor's Liability, Owner's and Contractor's Protective Liability and Personal Injury Liability.
- D. Automobile Liability – \$500,000.00
- E. Builders Risk – For all renovation and new construction projects under \$100,000 Virginia Tech will provide All Risk – Builders Risk Insurance. For all renovation contracts, and new construction from \$100,000 up to \$500,000 the contractor will be required to provide All Risk – Builders Risk Insurance in the amount of the contract and name Virginia Tech as additional insured. All insurance verifications of insurance will be through a valid insurance certificate.

The contractor agrees to be responsible for, indemnify, defend and hold harmless Virginia Tech, its officers, agents and employees from the payment of all sums of money by reason of any claim against them arising out of any and all occurrences resulting in bodily or mental injury or property damage that may happen to occur in connection with and during the performance of the contract, including but not limited to claims under the Worker's Compensation Act. The contractor agrees that it will, at all times, after the completion of the work, be responsible for, indemnify, defend and hold harmless Virginia Tech, its officers, agents and employees from all liabilities resulting from bodily or mental injury or property damage directly or indirectly arising out of the performance or nonperformance of the contract.

6. **NOTICES:** Any notices to be given by either party to the other pursuant to any contract resulting from this solicitation shall be in writing, hand delivered or mailed to the address of the respective party as follows:

If to Contractor:

Address Shown On RFP Cover Page
Attention: Name Of Person Signing RFP

If to Virginia Tech:

Virginia Polytechnic Institute and State University
Attn: Barbara J. Layman, CPPO, CPPB, VCO, Contract Officer
Information Technology Acquisitions 0214
1700 Pratt Dr.
Blacksburg, VA 24061

7. **PROPOSAL ACCEPTANCE PERIOD:** Any proposal received in response to this solicitation shall be valid for 120 days. At the end of the 120 days the proposal may be withdrawn by Offeror's written request. If the proposal is not withdrawn at that time it remains in effect until an award is made or the solicitation is cancelled.
8. **CONTRACTOR RESPONSIBILITIES:** The Contractor shall be responsible for completely supervising and directing the work under this contract and all subcontractors that he may utilize, using his best skill and attention. Subcontractors who perform work under this contract shall be responsible to the Contractor. The Contractor agrees that he is as fully responsible for the acts and omissions of his subcontractors and of persons employed by them as he is for the acts and omissions of his own employees.
9. **QUANTITIES:** Quantities set forth in this solicitation are estimates only; the Contractor shall supply at proposal prices actual quantities as ordered, regardless of whether such total quantities are more or less than those shown.
10. **RENEWAL OF CONTRACT:** Virginia Tech may renew this contract upon written agreement of both parties for five successive one-year periods, or as negotiated under the terms of the current contract, and at a reasonable time (approximately 90 days) prior to the expiration.
11. **WARRANTY (COMMERCIAL):** The Contractor agrees that the goods and services furnished under any award resulting from this solicitation shall be covered by the most favorable commercial warranties the contractor gives any customer for such goods and services and that the rights and remedies provided therein are in addition to and do not limit those available to Virginia Tech by any other clause of this solicitation. A copy of this warranty must be furnished with the proposal.
12. **COMMUNICATIONS:** Communications regarding this RFP shall be formal from the RFP issue date, and directed to ITA as noted above in #6, until either a Contractor has been selected or ITA rejects all proposals. Informal communications, including but not limited to request for information, comments or speculations regarding this RFP to any University employee other than an ITA representative may result in the offending Offeror's proposal being rejected.
13. **RIGHT TO SELECT PROJECT PERSONNEL:** The University has the right to interview and select all of the Contractor's personnel that will provide services under the Agreement.

14. **RIGHT TO REMOVE PROJECT PERSONNEL:** The University has the right to remove any of the selected Contractor's personnel that will provide services under the Agreement.
15. **SUBCONTRACTS:** No portion of the work shall be subcontracted without prior written consent of Virginia Tech. In the event that the Contractor desires to subcontract some part of the work specified herein, the Contractor shall furnish Virginia Tech the names, qualifications and experience of their proposed subcontractors. The Contractor shall, however, remain fully liable and responsible for the work to be done by his subcontractor(s) and shall assure compliance with all requirements of the contract.
16. **ADVERTISING:** In the event a contract is awarded for supplies, equipment, or services resulting from this solicitation, no indication of such sales or services to Virginia Tech will be used in product literature or advertising without the prior written consent of Virginia Tech. The Contractor shall not state in any of the advertising or product literature that the Commonwealth of Virginia or any agency or institution of the Commonwealth has purchased or uses its products or services.
17. **CERTIFICATION TESTING AND ACCEPTANCE:** The system specified in the contract shall be considered ready for production testing upon receipt of documentation from the Contractor that a successful system audit or diagnostic test was performed at the site demonstrating that the system meets the minimum design/performance capabilities stipulated by the contract. The system shall be deemed ready for production certification testing on the day following receipt of this documentation. Virginia Tech shall provide written confirmation of its acceptance following successful completion of the production certification test. System (software and/or hardware) payment will be authorized after the successful completion and certification test(s).
18. **SEVERAL LIABILITY:** Virginia Tech will be severally liable to the extent of its purchases made against any contract resulting from this solicitation. Applicable entities described herein will be severally liable to the extent of their purchases made against any contract resulting from this solicitation.

ATTACHMENT B

**Standard Contract form for reference only
Offerors do not need to fill in this form**

**COMMONWEALTH OF VIRGINIA
STANDARD CONTRACT**

Contract Number: _____

This contract entered into this ____ day of _____ 20____, by _____, hereinafter called the "Contractor" and Commonwealth of Virginia, Virginia Polytechnic Institute and State University called "Virginia Tech".

WITNESSETH that the Contractor and Virginia Tech, in consideration of the mutual covenants, promises and agreements herein contained, agrees as follows:

SCOPE OF CONTRACT: The Contractor shall provide the _____ to Virginia Tech as set forth in the Contract Documents.

PERIOD OF CONTRACT: From _____ through _____.

COMPENSATION AND METHOD OF PAYMENT: The Contractor shall be paid by Virginia Tech in accordance with the contract documents.

CONTRACT DOCUMENT: The contract documents shall consist of this signed contract, Request For Proposal Number _____ dated _____, together with all written modifications thereof and the proposal submitted by the Contractor dated _____ and the Contractor's letter dated _____, all of which contract documents are incorporated herein.

In WITNESS WHEREOF, the parties have caused this Contract to be duly executed intending to be bound thereby.

Contractor:	Virginia Tech
By: _____	By: _____
Title: _____	Title: _____

ATTACHMENT C

Virginia Tech Security Questions for Technology-Based Procurements

Name of Technology

Name of Company

Contact Information

If purchased, Virginia Tech reserves the right to conduct an IT security assessment on the product(s), system(s) and/or service(s) once delivered to validate the answers to the questions below. If evaluation copies or instances are available for testing, they should be provided to the IT Security Office prior to purchase. Please contact the IT Security Office at itso@vt.edu.

Documentation

Internal Use

Do you have a completed Shared Assessments full SIG questionnaire?		
Have you undergone a SAS 70 or SSAE 16 audit?		
Do you have a documented change management process?		
Do you have a formal Incident Response plan?		
Application/Service/Data Security		
Describe the permissions granted to each role in your application/system?		
Describe the level to which the roles and permissions can be customized by Virginia Tech.		
What specific encryption algorithms are employed for your product(s), system(s) and/or service(s)?		
Is all sensitive data (i.e. Social Security Numbers, Credit Card Numbers, Health Information, etc) encrypted in transit and at rest? If not, please explain? (NOTE: Please see the Sensitive Information page at http://www.security.vt.edu/sensitiveinfo.html for specifics).		

Will Virginia Tech data be encrypted at rest? (Whole Disk Encryption, DB encryption, column level encryption inside a DB)		
Describe the mechanism for transferring data from Virginia Tech to your organization. Are these transfers logged?		
Is login information such as user name and password encrypted during transmission from the client to the server? NOTE: Base-64 encoding is not acceptable.		
Are passwords hashed, so they cannot be decrypted? (SHA-1, SHA-256, MD5, ...)		
Does your product(s), system(s) and/or service(s) prevent the use of shared credentials or accounts including administrative accounts?		
Describe how your product(s), system(s) and/or service(s) authenticate and authorize users?		
Does your product(s) and/or system(s) facilitate compliance with Federal and State laws, such as FERPA, HIPPA and PCI?		
Is all access, including administrative accounts, controlled and logged (i.e. firewalls, file system permissions, ACLs, database table permissions, packet logs, etc.)? If not, please explain.		
Will Virginia Tech data be used in test or development environments?		
Does your company own the physical data center where Virginia Tech's data will reside?		
Do any of your servers reside in a co-located data center?		
If you are using a co-located data center, does this data center operate outside of the United States?		
If this co-located data center operates outside of the United States, will any of Virginia Tech's data ever leave the United States?		
If Virginia Tech data will leave the United States, please list all countries where it will be stored.		
Is there a contract in place to prevent data from leaving the United States?		
If you are using a co-located data center, please describe how networks and systems are separated.		
Are intrusion detection technologies and firewalls utilized on the hosted system(s)?		
Describe how your facility is physically secured?		

Third Parties

Will Virginia Tech data be shared with or hosted by any third parties?		
If so, list all 3rd parties that will host or have access to Virginia Tech data.		
Do you perform security assessments of third party companies?		
If you do assess third parties, please describe assessment methodology.		
How often do you reassess third party companies?		
Briefly explain why each of these third parties will have access to Virginia Tech data.		
Have you experienced a breach?		

Password/Passphrase Management

Can you enforce password / passphrase aging requirements?		
Can you enforce password / passphrase complexity requirements?		
Are user account passwords / passphrase visible in administration modules?		
Are stored user account passwords / passphrases hashed?		
What algorithm is used to hash passwords?		

Vulnerability Assessment/Mitigation

The OWASP 10 identifies the most critical web application security flaws. How does your organization address and mitigate the common application risk identified by the OWASP Top 10. Information about the OWASP Top Ten can be found at https://www.owasp.org/index.php/OWASP_Top_Ten_Project .		
Are your applications scanned for vulnerabilities by a qualified 3rd party?		
Are your systems scanned for vulnerabilities by a qualified 3rd party?		
Are your applications scanned for vulnerabilities prior to new releases?		
What application and operating system vulnerability scanning companies do you use?		

How often are operating systems and applications scanned?		
Are updates to your product released on a regular schedule?		
How are critical security patches applied to your systems and applications?		
Will we be notified of major changes to your environment that could impact our security posture?		
Disaster Recovery/Backups		
Do you have a disaster recovery plan?		
Are components of your disaster recovery plan located outside of the United States?		
When was the last time you tested your disaster recovery plan?		
Are you performing backups?		
What type of media is used for backups?		
How long are these backups kept?		
How is backup media destroyed?		
Are you encrypting your backups?		
Will you be willing to encrypt backups of Virginia Tech data?		
Are these backups taken offsite?		
Where are all the locations that will store Virginia Tech backup data? Please list by country if located outside of the U.S.A.		
Employee Policies/Security Awareness		
Do you perform background screenings on employees?		
Do you have an information security awareness program?		
Is the security awareness training mandatory for all employees?		
How frequently are employees required to undergo the security awareness training?		
Do your employees hold Information Technology Security certifications and/or secure coding? If so, which ones?		

Revised June 5, 2013

ATTACHMENT D

PRICING

<i>Please submit a separate cost spreadsheet for in-house or hosted options, as applicable. Please note any discounts that might be available.</i>							
<u>Costs Categories:</u>	<u>One-Time Costs</u>	<u>First Year</u>	<u>Second Year</u>	<u>Third Year</u>	<u>Fourth Year</u>	<u>Fifth Year</u>	<u>Explanatory Comments (RFP Components included)</u>
Software Costs:							
Hosting/SaaS Services Costs, if Applicable:							
Hardware Costs							
Business Continuity/Disaster Recovery Costs							
Training:							
Travel:							
Vendor Labor (Implementation) Costs							
3rd Party Costs:							
Other:							

NOTE: Other pricing categories may be submitted by the Offeror.

ADDENDUM # 1 TO RFP #0032038

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY INFORMATION TECHNOLOGY ACQUISITIONS (0214) 1700 PRATT DRIVE, BLACKSBURG, VA 24060

DATE September 23, 2014	ORIGINAL DUE DATE AND HOUR October 1, 2014 @ 3:00 pm
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ADDRESS ALL INQUIRIES AND CORRESPONDENCE TO: Barbara J. Layman, CPPO, VCO , Assistant Director, ITA E-MAIL ADDRESS: barbl66@vt.edu, TELEPHONE NUMBER (540) 231-9517, FAX NUMBER (540) 231-4110
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Laboratory Information Management System

- A. Please note the following change on the *General Information Form* of the RFP document: #2 shall be changed to read "Sealed proposals shall be received until October 15, 2014 at 3:00 pm."

- B. All other terms, conditions, and description remain the same.

FULL LEGAL NAME (PRINT) (Company name as it appears with your Federal Taxpayer Number)		FEDERAL TAXPAYER NUMBER (ID#)	
BUSINESS NAME/DBA NAME/TA NAME (If different than the Full Legal Name)		FEDERAL TAXPAYER NUMBER (If different than ID# above)	
BILLING NAME (Company name as it appears on your invoice)		FEDERAL TAXPAYER NUMBER (If different than ID# above)	
PURCHASE ORDER ADDRESS		PAYMENT ADDRESS	
CONTACT NAME/TITLE (PRINT)		SIGNATURE (IN INK)	DATE
E-MAIL ADDRESS	TELEPHONE NUMBER	TOLL FREE TELEPHONE NUMBER	FAX NUMBER TO RECEIVE E-PROCUREMENT ORDERS

ADDENDUM # 2 TO RFP #0032038

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY INFORMATION TECHNOLOGY ACQUISITIONS (0214) 1700 PRATT DRIVE, BLACKSBURG, VA 24060

DATE: October 3, 2014	ORIGINAL DUE DATE AND HOUR: October 1, 2014 @ 3:00 pm
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ADDRESS ALL INQUIRIES AND CORRESPONDENCE TO: Barbara J. Layman, CPPO, VCO , Assistant Director, ITA E-MAIL ADDRESS: barbl66@vt.edu, TELEPHONE NUMBER (540) 231-9517, FAX NUMBER (540) 231-4110
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Laboratory Information Management System

- A. Please note the following change on the *General Information Form* of the RFP document: #2 shall be changed to read “**Sealed proposals shall be received until October 29, 2014 at 3:00 pm.**”

- B. Please note the following change to page 5, Section VI. Statement of Needs, Paragraph B. Sanger & NGS Modules, number 4. Instrument Interfacing, item c. **the Instrumentation List was inadvertently omitted from the original RFP; it is included here, and subsequently by reference, into the RFP as Attachment E.**

- C. Please note the following change to page 14 in Attachment A, Special Terms and Conditions, item #10: **RENEWAL OF CONTRACT: Paragraphs A. & B. below shall be added to this clause:**
 - A. If Virginia Tech elects to exercise the option to renew the contract for an additional one-year period, the contract price(s) for the additional year shall not exceed the contract prices of the original contract increased/decreased by no more than the percentage increase/ decrease of the other services category of the CPI-W section of the Consumer Price Index of the United States Bureau of Labor Statistics for the latest twelve months for which statistics are available.
 - B. If during any subsequent renewal period Virginia Tech elects to exercise the option to renew, the contract price(s) for the subsequent renewal period shall not exceed the contract price(s) of the previous renewal period increased/decreased by more than the percentage increase/decrease of the other services category of the CPI-W section for the Consumer Price Index of the United States Bureau of Labor Statistics for the latest twelve months for which statistics are available.

- D. All other terms, conditions, and description remain the same.

FULL LEGAL NAME (PRINT) (Company name as it appears with your Federal Taxpayer Number)		FEDERAL TAXPAYER NUMBER (ID#)	
BUSINESS NAME/DBA NAME/TA NAME (If different than the Full Legal Name)		FEDERAL TAXPAYER NUMBER (If different than ID# above)	
BILLING NAME (Company name as it appears on your invoice)		FEDERAL TAXPAYER NUMBER (If different than ID# above)	
PURCHASE ORDER ADDRESS		PAYMENT ADDRESS	
CONTACT NAME/TITLE (PRINT)		SIGNATURE (IN INK)	DATE
E-MAIL ADDRESS	TELEPHONE NUMBER	TOLL FREE TELEPHONE NUMBER	FAX NUMBER TO RECEIVE E-PROCUREMENT ORDERS

ATTACHMENT E

GRL Instrument List

Below is a list of instruments for which interfaces will be required - either initially or possibly at a later date - along with all other available information such as their output format (.txt file, .csv file, image, other) and whether they are networked.

Instrument List					
Instrument Type	Model No	Operating Software	Quantity	Output Format	Interface Now
ABI DNA Analyzer	3730	Foundation Data Collection Software V3, Sequence Scanner 2	1	.ab1	No
ABI Genetic Analyzer	3130XL	Data Collection Software V3, Peak Scanner Software 2	1	.fsa	No
HiSeq	2500	HCS, RTA 1.17.20	1	.bcl, tab-delimited	Yes
MiSeq		MCS	1	FastQ, tab-delimited,	Yes
Eppendorf epMotion	M5073	epMotion Control Software	1	tab-delimited, macros Excel	Yes
BioMicroLab Pick and Place Tube Handler	XL9	BioMicroLab Worklist Processor V9.4	1	CSV	Yes
BioMicroLab Sample Scan 96		Integrated with XL9			
Agilent BioAnalyzer	2100	Agilent BioAnalyzer Expert	1	PDF, Excel, .xad	Yes
Agilent TapeStation	2200	TapeStation Controller, TapeStation Analysis	1	.doc, TapeStation data file	Yes
ABI ViiA7		ViiA7 Software v1.2.2	1	.eds, Excel, tab-delimited	Yes
NanoDrop	8000	NanoDrop 8000 Software	1	tab-delimited	Yes
NanoDrop	ND-1000	NanoDrop Software	1	tab-delimited	Yes
Molecular Devices SpectrMax	M2		1	Excel, tab-delimited	Yes
Qubit	2.0		1		Yes
PippinPrep		PX01131	1		