



Request for Application # 2018-048

Development of Cloud-Based System for the Data Collection and Analysis of Supply Chain Data

I. Summary of Deadlines

The expected schedule for this application is outlined in the following table. Note that PATH reserves the right to modify this schedule as needed. All parties will be notified simultaneously by email of any changes.

Release of Request for Application	December 19, 2018
Live Q&A teleconference	January 8, 2019 at 11am EST Join: https://path.zoom.us/j/286589381 Meeting ID: 286 589 381 Phone: https://zoom.us/j/286589381
Applications due	January 24, 2019 at 5pm EST
Bidders notified of decision	January 30, 2019

II. PATH Statement of Business

PATH is the leader in global health innovation. An international nonprofit organization, we save lives and improve health, especially among women and children. We accelerate innovation across five platforms—vaccines, drugs, diagnostics, devices, and system and service innovations—that harness our entrepreneurial insight, scientific and public health expertise, and passion for health equity. By mobilizing partners around the world, we take innovation to scale, working alongside countries primarily in Africa and Asia to tackle their greatest health needs. Together, we deliver measurable results that disrupt the cycle of poor health. Learn more at www.path.org.



III. Project Background

A. Project Background

Digital Square is a partnership of the world's leading digital health experts from 40+ organizations working together with countries to strengthen digital health systems. As a PATH-led initiative, Digital Square offers a new way to invest in digital health—providing a space where countries and members of the global community can gather to think big and do good, together. By convening government officials, technological innovators, donor and implementation partners, and others across borders and boundaries in the Digital Square, we can grow possibility into reality by focusing on our common goal: **connecting the world for better health**.

USAID has developed a robust cloud-based system to support actionable and rich analytics on USAID supply chain transactional data to include commodity orders, shipment tracking, country stock levels, forecasting, and supply plans. This single-tenant platform provides a means for data analysts to access the underlying data to perform ad-hoc analyses based on the following data models: the Business Intelligence and Analysis (BI&A) [Information Specification for Implementing Partners](#) and the [Logical Reference Model](#). Digital Square, with support from USAID, is accepting applications to establish a multi-tenant cloud-based system to be utilized for a Data Collection and Analysis (DC&A) platform for supply chain data from electronic logistics management information systems (eLMIS) based on open infrastructure.

B. Proposed Project Timeline

The project is split into two phases with a proposed timeline outlined in Table 1 below. However, all submissions should include a full application with budget and technical approach for both phases. Submissions for one phase only will not be accepted. A detailed description of Phase I and Phase II activities is below.

Table 1

Activity	Due Date
Phase I - Development of DC&A Platform	
Project start date	April 1, 2019
Interim deliverables due Data Lake service established and migration of Global Health Supply Chain (GHSC)-BI&A supply chain data into Data Lake (See Subtask I.1).	April 15, 2019



<p>Final deliverables due</p> <p>Confirm with partners that data feeds are accurate, and dashboards, reports, alerts, and data visualizations are working.</p> <p>Final migration of GHSC-BI&A supply chain data.</p> <p>Development of representative data visualizations for achieving visibility of the Global Health (GH) supply chain, and a country's supply chain. (See Subtask I.2).</p> <p>Development of representative alerts, reports, and dashboards for monitoring the performance of the GH supply chain, and a country's health program. (See Subtask I.3).</p>	<p>April 30, 2019</p>
<p>Phase II - Maintenance and Training for DC&A Platform</p>	
<p>Project start date</p>	<p>May 1, 2019 (start date and subsequent dates contingent on USAID approval of Phase I deliverables)</p>
<p>Training/onboarding</p> <p>Establishment of a Knowledge Management portal on the Digital Health Atlas' Resource Library (See Subtask II.2).</p> <p>Training documentation of all training tools for the data users on the use of visualization and analysis tools (See Subtask II.3).</p> <p>Initial and recurrent training as appropriate to the data users on the use of visualization and analysis tools (See Subtask II.4).</p>	<p>July 1, 2019</p>
<p>Maintenance*</p> <p>Work with stakeholders (which include but are not limited to USAID, PATH and USAID defined implementing partners) to ensure data connections are secure and successful.</p> <p>Ongoing maintenance and feature development as needed (See Subtask II.1).</p>	<p>December 31, 2019</p>

* Additional annual cycles of funding and scope may be requested by USAID.



IV. Scope of Work and Deliverables

A. Scope of Work

The subawardee will establish a cloud-based system platform to be utilized for a Data Collection and Analysis (DC&A) platform for supply chain data. The data collection and analytics solution provided by the subawardee must include software as a service (SaaS) solutions with features and capabilities as described in the subtasks below. The development of the DC&A platform must have capabilities in alignment with the Digital Square considerations for the use of Cloud Based Services and Global Goods that will be developed in conjunction with the [OpenHIE DevOps community](#) starting with the call scheduled for January 7, 2019. Once developed, the system will be migrated to a cloud-based hosting site managed through Digital Square.

The scope of activities for the DC&A solution is divided into two phases which are described below. The solution shall be readily extensible to enable oversight and management of GHSC, including but not limited to, the key functional areas:

- On-time delivery of order lines
- Fulfillment cycle times
- Product quality assurance
- Budgets and expenses
- Product, manufacturer, and wholesaler master lists
- Procurement
- Freight forwarding
- Inventory management
- Financial tracking and reporting
- Metadata where possible
- Data quality assurance, including completeness, timeliness, and accuracy of the data
- Data exchange between the DC&A solution and several United States Government (USG) data sources, including, but not limited to all USAID supply chain contractors, country eLMIS instances, The Global Fund (TGF), Reproductive Health Supply Coalition (RHSC) , ForLab (OpenSource) tool, Open Logistics Management Information System (OpenLMIS) instances and others as directed by USAID in consultation with interagency supply group (ISG) representatives.

PHASE I - Development of DC&A platform

SUBTASK I.1 – DATA LAKE

The data lake must incorporate the existing [Logical Reference Model](#) established under the USAID GHSC-BI&A. Specifically, the logical data model includes but is not limited to data elements relevant for supply chain management, financial management, and performance management. The data model will likely expand as more data sources are added. To that end, the subawardee must provide to end-users a means for direct and immediate access to all data used by all SaaS solutions represented in this subaward, including but not limited to, capabilities to:

- Upload data sets according to specified data models leveraging the same consistent set of harmonized and standardized data including:
 - [USAID GHSC-BI&A Information Specifications](#)



- Download results into standard machine-readable formats, such as comma-separated values (CSV) files, JSON or XML as relevant to specific data models as outlined above.
- Benefit from appropriate rapid-response technologies such as those available through the cloud platforms for the ingestion and transformation of data into specified data models.
- Provide the capabilities to support functionality outlined in Subtask I.2, I.3 and I.4.
- Support for data ingestion from the following data sources:
 - Routine submission of GH donor procurement data, initially from the USAID GH implementing partners, which will transmit all data according to the [USAID GHSC-BI&A Information Specifications](#).
 - Routine submission of data from one country (to be specified) in the form of extracts of their supply chain systems.

SUBTASK I.2 – DATA VISUALIZATION

The subawardee solution must allow for reports, dashboards, ad hoc queries, index-based searches, geographic information system (GIS) support, data lineage, and quick data visualization features. Specifically, the visualization solution(s) will, at a minimum, provide the following capabilities:

- Production of defined reports with highly scalable distribution and scheduling capabilities. Reports must enable data users to display data geographically.
- Create dashboards that include the ability to publish formal, web-based reports with intuitive displays of information indicating the state of the performance metric, compared with a goal or target value. Dashboards must be enabled to display data geographically.
- Enable users to perform ad hoc queries about the data, without relying on IT staff to create a report. In particular, the solution must have a robust semantic layer to allow users to navigate available data sources. Must also offer query governance and auditing capabilities to ensure that queries perform well.
- Apply a search index to both structured and unstructured data sources and map them into a classification structure of dimensions and measures that users can easily navigate and explore using a search interface. Unstructured data will come from documents (including pdf, doc, xls, ppt, etc.) stored through a knowledge management feature, as well as through social media sources such as Facebook and Twitter.
- Automatically capture data lineage details to allow for easier identification of affected areas when performing system modifications including adding/changing/removing data sets.
- Allow for quick data visualization to assess data quality, particularly of new data sets. This feature could be part of the main visualization solution or a secondary data visualization tool.

In Phase I, the solution must implement a representative set of visualizations to illustrate these capabilities. Capabilities and illustrative examples are provided below (with identifying or sensitive data blurred out):

- Completeness and timeliness of file submissions.



file submissions

today is 18 Jul 2018 | file submission as of 14 Jul 2018

partner

fiscal quarter

57%

C4 - completeness



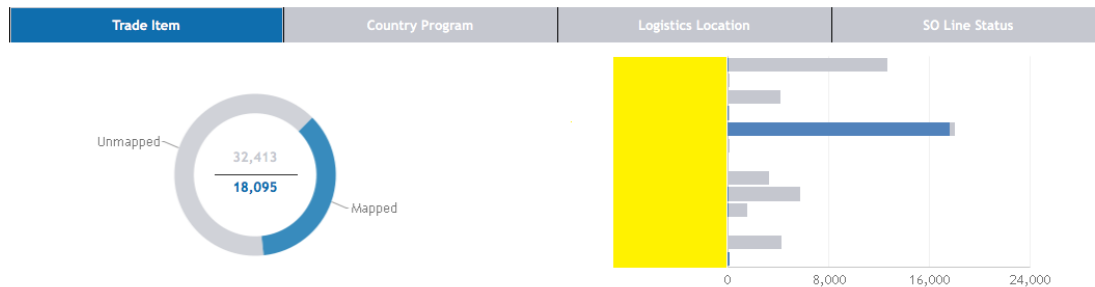
55%

C5 - timeliness



C4 - completeness			C5 - timeliness							
Financials	Forecasting and Supply Planning	Fulfillment Request	Goods Received Note	Inventory Management	Logistics	Price Quote	Purchase Orders	Sales Orders	Supplier Contracts	Technical Assistance
100%	0%	93%	41%	100%	100%	47%	62%	59%	100%	8%

- Data elements and which ones have been harmonized to standard reference data



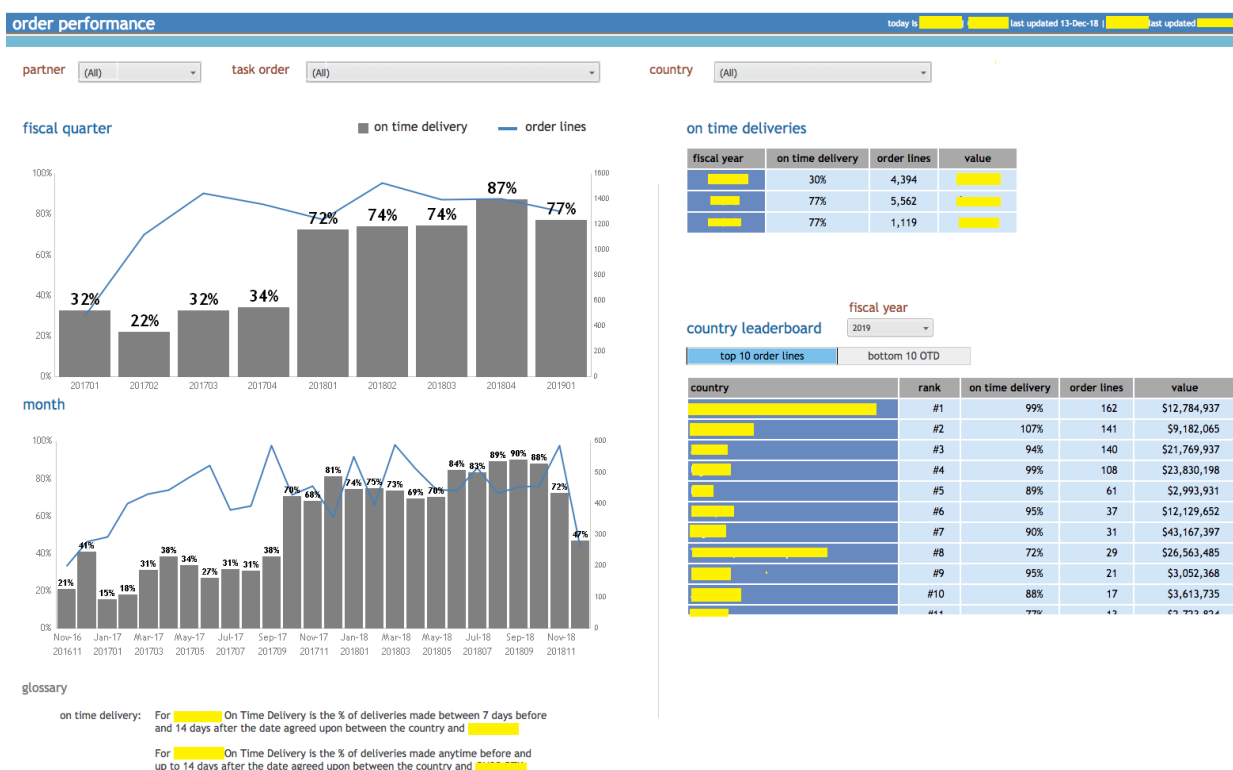
unmapped trade items

D_Unknown(1)	D_Unknown(1)	D_Unknown(1)	D_Unknown(1)	D_Unknown(1)	Alere Fingertick Sample Collection Kit, 100 Tests [Alere]			Price Quotes
D_Unknown(1)	D_Unknown(1)	D_Unknown(1)	D_Unknown(1)	D_Unknown(1)	Alere Fingertick Sample Collection Kit, 100 Tests [Alere]			Purchase Orders
D_Unknown(1)	D_Unknown(1)	D_Unknown(1)	D_Unknown(1)	D_Unknown(1)	Alere Fingertick Sample Collection Kit, 100 Tests [Alere]			Shipments
D_Unknown(1)	D_Unknown(1)	D_Unknown(1)	D_Unknown(1)	D_Unknown(1)	Alere Fingertick Sample Collection Kit, 100 Tests [Alere]			Shipments

mapped trade items

Product Classification Level 01	Product Classification Level 02	Product Classification Level 03	Product Classification Level 04	Product Classification Level 05	Trade Item	Information Provided	USAID Project	BI&A Subject Area
Apparel and Luggage and Personal Care Products	Luggage and handbags and packs and cases	Purses and handbags and bags	Other Purses and handbags and bags	Fanny Pack, Zippered Pockets, Adjustable Waist Strap	Fanny Pack, Zippered Pockets, Adjustable Waist Strap, 1 Each			Price Quotes

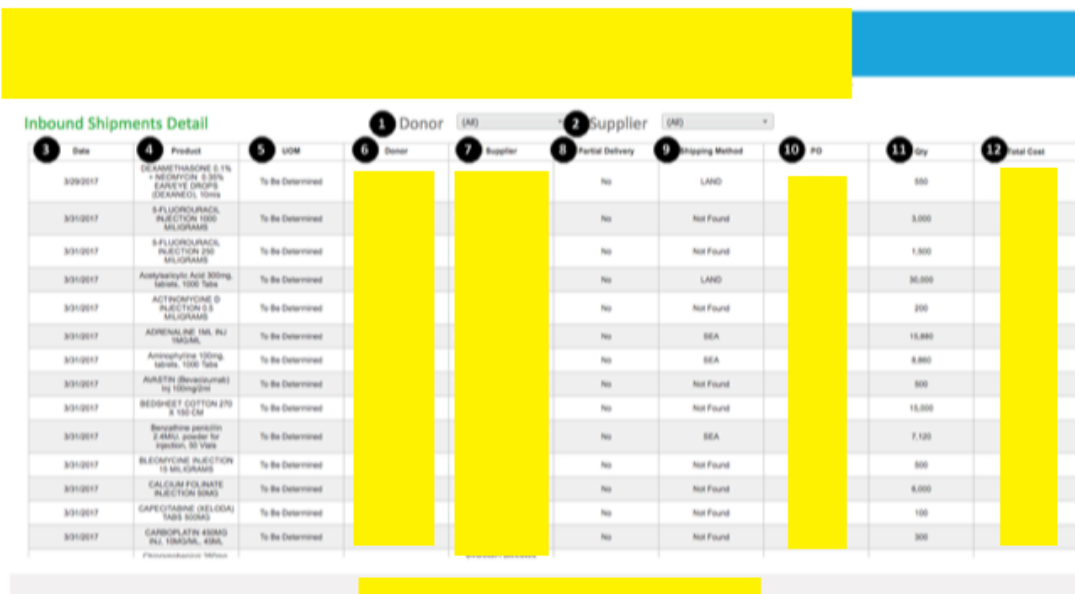
- On time performance of implementing partners.
 - For GHSC-PSM on-time delivery is the percent of deliveries made between 7 days before and 14 days after the date agreed upon between the country and GHSC-PSM. For GHSC-RTK on-time delivery is the percent of deliveries made any time before and up to 14 days after the date agreed upon between the country and GHSC-RTK.



- Search the product master.

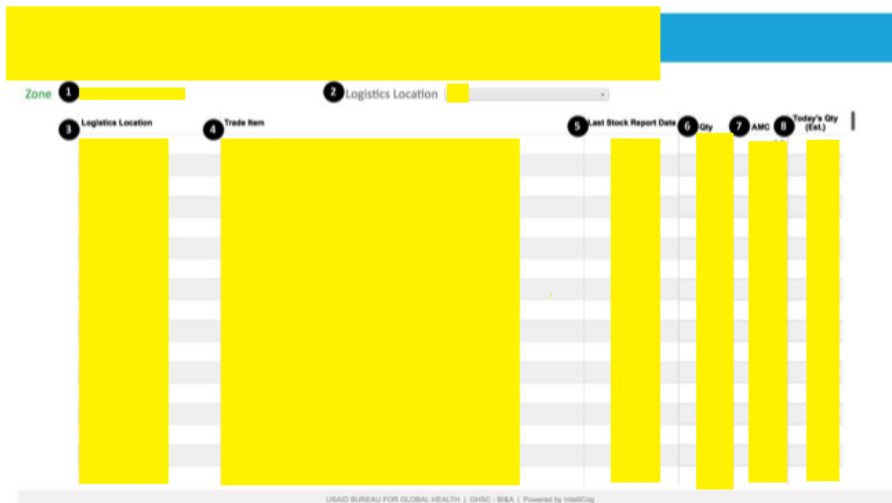
[illegible]

- A set of interactive dashboards to view country data.

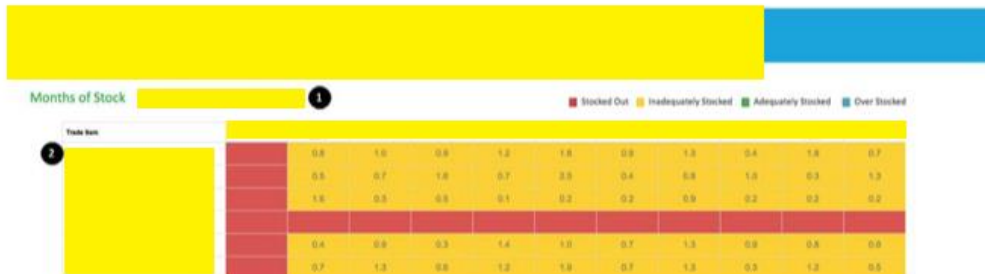


1	2	3	4	5	6	7	8	9	10	11	12
Donor	Supplier	Date	Product	UOM	Donor	Supplier	Partial Delivery	Shipping Method	PO	Qty	Total Cost
		3/29/2017	DEAMETHASONE 0.1% + NEOSTIGMINE 0.3% EARLYVE (DROPS) (DEAMETHASONE) 10mg	To Be Determined			No	LAND		500	
		3/31/2017	5-FLUOROURACIL INJECTION 1000 MG/GRAMS	To Be Determined			No	Not Found		3,000	
		3/31/2017	5-FLUOROURACIL INJECTION 250 MG/GRAMS	To Be Determined			No	Not Found		1,500	
		3/31/2017	Acetylsalicylic Acid 300mg tablets, 1000 Tabs	To Be Determined			No	LAND		30,000	
		3/31/2017	ACTINONINONE D INJECTION 0.5 MG/GRAMS	To Be Determined			No	Not Found		200	
		3/31/2017	ADRENALINE 1MG, INU 100MG	To Be Determined			No	SEA		10,000	
		3/31/2017	Amoxycillin 100mg tablets, 1000 Tabs	To Be Determined			No	SEA		8,000	
		3/31/2017	AVASTIN (Bevacizumab) 10 100mg/ml	To Be Determined			No	Not Found		500	
		3/31/2017	BEDONEST (COTTON) 270 X 100 CM	To Be Determined			No	Not Found		15,000	
		3/31/2017	Benzathine penicillin 1.44MG powder for injection, 50 Vials	To Be Determined			No	SEA		7,120	
		3/31/2017	BLEOMYCINE INJECTION 10 MG/GRAMS	To Be Determined			No	Not Found		500	
		3/31/2017	CALCIUM FOLICATE INJECTION 10MG	To Be Determined			No	Not Found		5,000	
		3/31/2017	CAPECITABINE (XELODA) 1000 500MG	To Be Determined			No	Not Found		100	
		3/31/2017	CARBOPLATIN 400MG INU 100MG, 400G	To Be Determined			No	Not Found		300	

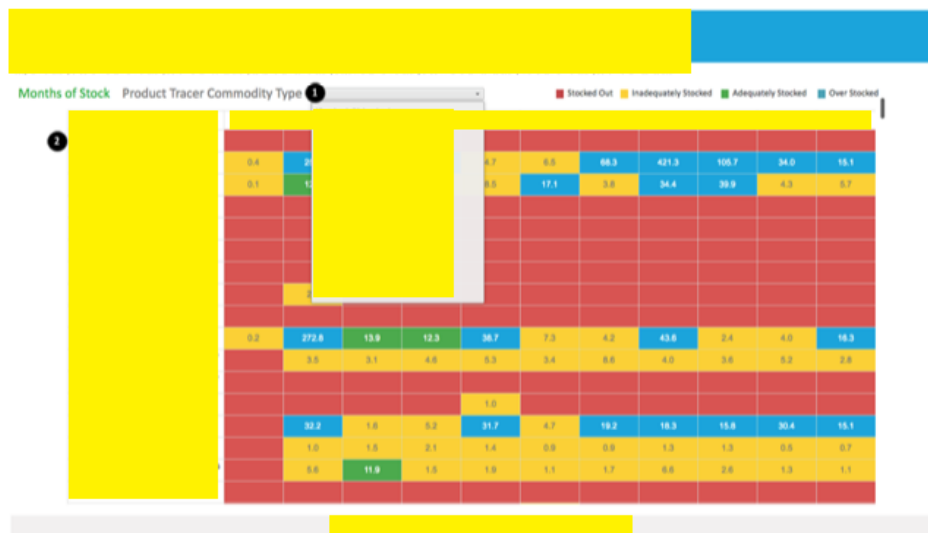
Inbound Shipments Detail		
#	Element	Description
1	Donor	Selector for the donor of the specified product
2	Supplier	Selector for the supplier of the specified product
3	Date	Expected arrival date of the shipment
4	Product	Product short name
5	UOM	Unit of measure of the specified product
6	Donor	Donor of the specified product
7	Supplier	Supplier of the specified product
8	Partial Delivery	Indicates 'Yes'/'No' if a shipment is arriving in Full (No) or Partial (Yes)
9	Shipping Method	Grouping of products by shipping method
10	PO	Purchase Order number of the shipment
11	Qty	Quantity identified from the corresponding source system
12	Total Cost	Sum of cost for the product



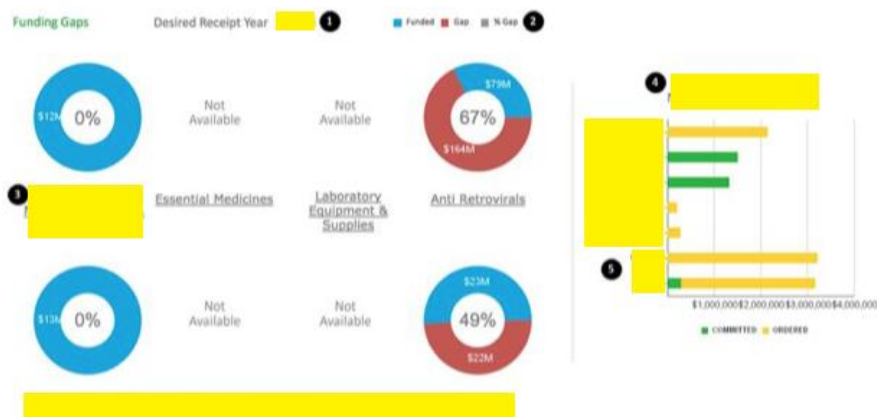
Trade Item Detail		
#	Element	Description
1	Zone	Static heading identifies the Zone selected from main dashboard
2	Logistics Location Selector	Selector of logistics locations that roll-up to the selected zone
3	Logistics Location	Name of the service delivery point
4	Trade Item	Product short name
5	Last Stock Report Date	Latest create date from elmis requisition line item table for that product
6	Qty	Stock in hand value reported from the elmis requisition line item table
7	AMC	Average monthly consumption reported from the elmis requisition line item table
8	Today's Qty (Est.)	Today's quantity (estimated) calculated by subtracting AMC (per each month behind today's date) from Stock in hand reported



Months of Stock Detail – by Product Tracer Commodity Type		
#	Element	Description
1	Product Tracer Commodity Type	Static heading identifies Product Tracer Commodity Type selected from main dashboard
2	Trade Item	Static listing of trade items associated with selected Product Tracer Commodity Type selected from main dashboard

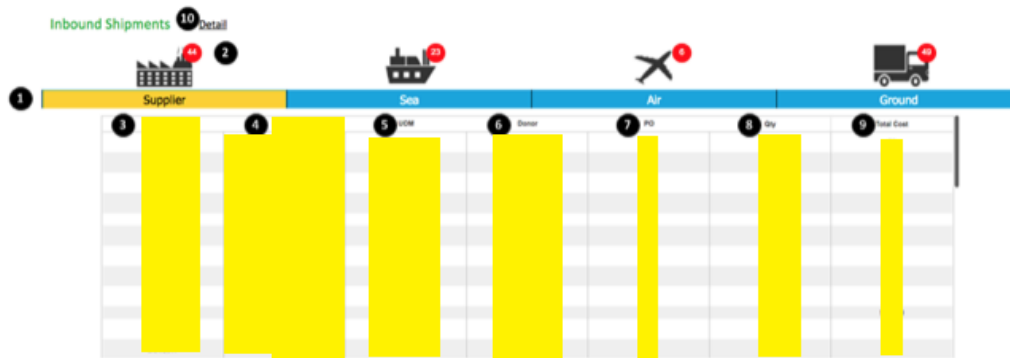


Months of Stock Detail – All Products		
#	Element	Description
1	Product Tracer Commodity Type	Defaults to 'All', the selector identifies individual product tracer commodity types or non-tracer commodity types
2	Trade Item	Short name of product at the trade item level

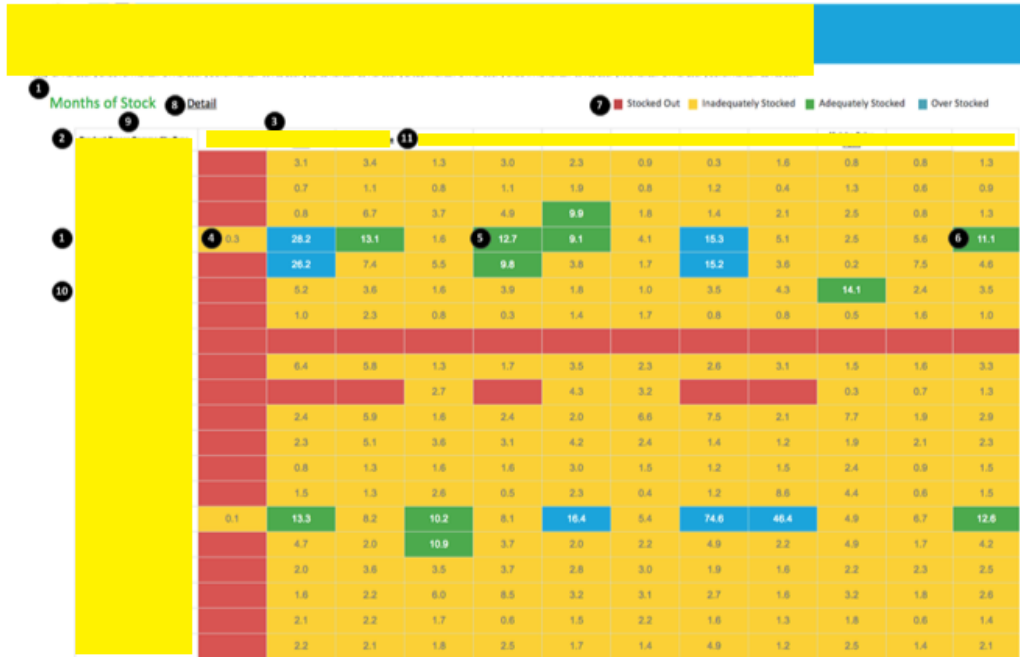


Funding Gaps		
#	Element	Description
1	Desired Receipt Year	Year selector for desired receipt year
2	Legend	Funded (Committed, Ordered, Delivered) vs un-funded (Planned)
3	Program	Vertical program within Tanzania
4	Program	Vertical program within Tanzania
5	Funding Source	Funder associated with the program disaggregated by supply plan status

Months of Stock		
#	Element	Description
8	Detail [Link]	Directs user to the MOS Detail Report (Page 4)
9	Product Tracer Commodity Type [Link]	Directs user to a Product Selection Filter. Upon selection, the user will be presented with the MOS Detail Report filtered by Tracer Commodity Type (Page 6)
10	Tracer Category Name [Link]	Directs user to the MOS Detail Report by Tracer Commodity Type (Page 4)
11	MSD Central or Zone Name [Link]	Directs user to the Trade Item Detail by Facility Report (Page 5)



Inbound Shipments		
#	Element	Description
1	Shipment Method	Grouping of products by shipping method
2	Shipment Indicator	The count of individual products in the Shipment record
3	Arrival Date	Expected arrival date of the shipment
4	Product	Product short name
5	UOM	Unit of measure of the specified product
6	Donor	Donor of the specified product
7	PO	Purchase Order number of the shipment
8	Qty	Quantity identified from the corresponding source system
9	Total Cost	Sum of cost for the product
10	Detail [Link]	Directs user to the Inbound Shipments Detail Report (Page 7)



Months of Stock		
#	Element	Description
1	Data Refresh Tag	Latest date of each Information Provider in BI&A
2	Product Tracer Commodity Type	Grouping of products sourced from [redacted]
3	Zone	Name of the Zone, Sales Point, or [redacted] for which Months of Stock is aggregated
4	Months of Stock - MSD	$\frac{\text{Stock on Hand at [redacted]}}{\text{SUM(Consumption at all Facilities for the current month)}}$
5	Months of Stock - Zone/Sales Point	$\frac{\text{Stock on Hand at the Zone} + \text{SUM(Stock on Hand at the Facilities within the Zone)} - \text{SUM(Consumption at those same Facilities for the prior month)}}{\text{SUM(Consumption at those same Facilities for the current month)}}$
6	Months of Stock - National	$\frac{\text{Stock on Hand at the [redacted]} + \text{SUM(Stock on Hand at all Facilities)} - \text{SUM(Consumption at all Facilities for the prior month)}}{\text{SUM(Consumption at all Facilities for the current month)}}$
7	Legend	Denotes MOS range from 'Stocked Out' to 'Over Stocked'

SUBTASK 1.3 – DATA ANALYTICS

With regard to analytics, the subawardee solution must be built to allow for analytics business rules, alerts, scorecards, data mining, and rapid response times. The solution is not required to include the



implementation of, but must allow establishment of business rules and business process management including:

- Allow alerts based on business rules.
- Provide the ability to easily explore data stored in multidimensional format and perform traditional online analytical processing-style analysis against relational data.
- Store data in multidimensional format for immediate query performance. Support write-back capabilities for planning and scenario modeling.
- Display dashboard metrics in a scorecard method by applying them to a strategy map that aligns KPIs with a strategic objective.
- Use data mining techniques to perform classification, estimation, clustering, prediction, and affinity analysis tasks.
- Take into consideration the current methods for data analytics readily available and which are inclusive of open-source, commercial analytics, and business intelligence tools.

In Phase I, the solution must implement a representative set of analytic tools to illustrate these capabilities which include:

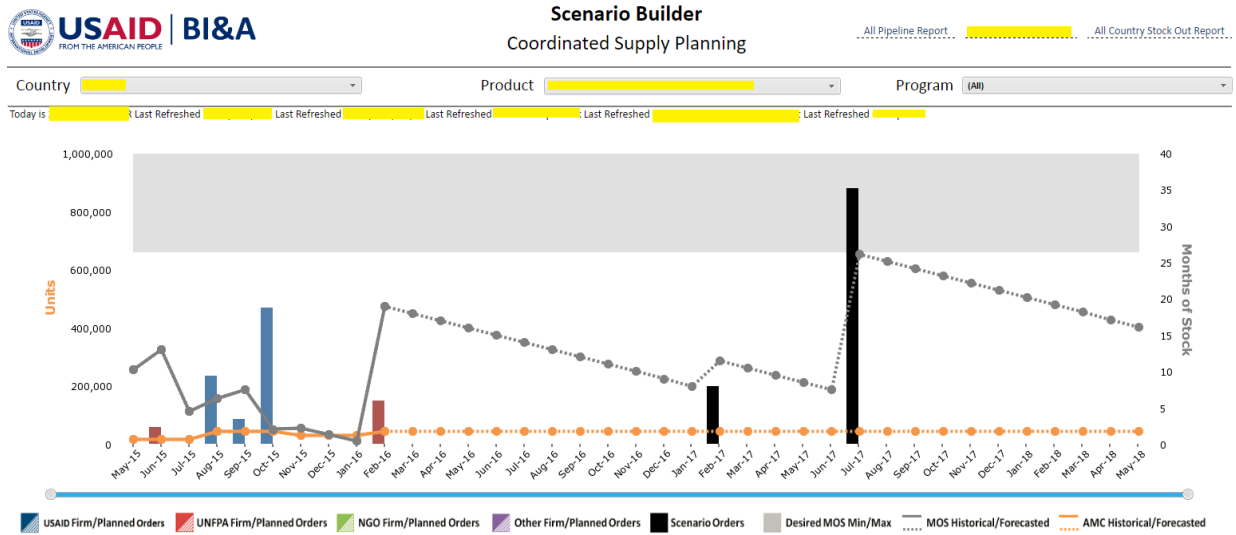
- Functionalities to replace the Procurement Planning and Monitoring Report for HIV. Please see list of functionalities and illustrative examples below:
 - The ability for a country to see shipment information, and to submit information about a shipment.

[illegible]

- The ability for global donors to visualize stock status across countries, programs, and products.



- The ability for global donors to visualize the stock situation of a given country, program, and product, and to develop scenarios to resolve stock imbalances.



- Email subscriptions to allow users to receive routine updated information about orders and shipments.

USAID BI&A

	RECENTLY DELIVERED	OVERDUE	AT RISK - LATE	AT RISK - EARLY	ON TRACK
ORDER LINES	1	34	31	72	25

RECENTLY DELIVERED

order line	planned arrival	last arrival	partner	trade item	qty	# shipments	OTD	days (early)/overdue

OVERDUE

order line	planned arrival	B&A is projecting	current stage	partner	trade item	qty	value	days overdue

AT RISK - LATE

order line	planned arrival	B&A is projecting	current stage	partner	trade item	qty	value	days until due
	7/14/2018	7/23/2018	ORDER SHIPMENT SHIPPED					4
	7/14/2018	8/8/2018						4
	7/14/2018	8/8/2018						4
	7/14/2018	8/8/2018						4

AT RISK - EARLY



PHASE II - Maintenance and Training for DC&A Platform

The scope of activities for Phase II should support training of users to the cloud-based system for data collection, and analysis. This includes documentation for use of the system and facilitating training. This phase also requires the subawardee to provide ongoing maintenance of the site including updates, maintenance, and support to a future partner selected to implement and support reporting supply chain information to the DC&A solution (hereto referred to as the Future Partner). The subawardee will be required to work closely with the Future Partner to provide background information, access to the system and any other work deemed applicable by Digital Square or USAID.

Phase II will focus on maintenance of the DC&A platform and training for users. This phase will follow Phase I after the platform has been developed and approved by USAID. Tasks to consider as part of this phase includes:

SUBTASK II.1 - MAINTENANCE AND FEATURE DEVELOPMENT

Ongoing maintenance of the platform with an organized issues tracker to manage site maintenance and improvements. In addition to providing technical maintenance and support, the subawardee will establish and document how end-users receive support including opening trouble tickets, monitoring resolutions, and other technical support for the platform.

Additional feature development is also expected to expand functionality of the data lake as well as add additional visualization and analysis tools as established by a prioritized set of requests amongst users. It is expected that the subawardee as well as third parties will be developing these additional functionalities and the platform shall support independent development by third parties. Expected functionality includes:

- Upload data sets according to specified data models leveraging the same consistent set of harmonized and standardized data including:
 - Supply chain data exchange standards (e.g. GS1)
 - Other relevant health information data models (e.g. [HL7 FHIR](#))
- Download results into standard machine-readable formats, such as comma-separated values (CSV) files, JSON or XML as relevant to specific data models as outlined above.
- Support for data ingestion from additional data sources such as:
 - Routine submission of procurement data from the international development community.
 - Routine submission of country data, currently in the form of "Pipeline Software" databases (Microsoft Access).
 - Routine submission of country data directly entered into the solution by country health professionals.
 - Routine submission of country data, in the form of extracts of their supply chain systems.
 - Global procurement data collected by the subawardee through the Procurement Planning and Monitoring Report (PPMR) solutions.
 - Implementations of electronic supply chain management systems (e.g. OpenLMIS) (this will be through a collaboration with the Future Partner).
 - Routine submission of USAID country operational plans.
 - DATIM indicators, collected by the subawardee.
 - Routine submission of country program indicators collected by USAID GHSC-PSM, which will transmit all data according to the USAID GHSC-BI&A Information Specifications.



- Routine submission of technical assistance activity performed by the USAID GHSC-TA contracts, which will transmit all data according to the USAID GHSC-BI&A Information Specifications.

SUBTASK II.2 - KM TOOL

The subawardee will work with the World Health Organization and Digital Square to establish a collection on Digital Health Atlas' Resource Library (expected launch by April 2019) which will be available to end users to save short-term technical assistance deliverable documents, including metadata, to allow for document storage, logical organization, document searching, and activity logging.

SUBTASK II.3 - TRAINING MATERIALS

The subawardee must develop all training materials and user guides to support user understanding of the DC&A platform. The audience for these training materials will be supply chain managers and decision makers in the global health community, such as those within country ministries, The Global Fund, and USAID. The subawardee will work closely with the Future Partner to contextualize training materials.

SUBTASK II.4 - FACILITATE TRAINING

The subawardee must lead a training for Digital Square, USG, the Future Partner and other partners. The training goal is to engage users of the DC&A platform on how to use and operate the analytics platform. The training must be recorded and archived for future users.

Additional Requirements for Phase I and Phase II:

The subawardee must ensure that cloud infrastructure, cloud platform, and cloud software defects that are identified during the test and maintenance phases are rectified. The software must be capable to implement within the standards for GH supply chain program funds and USG technical standards (Subject to change, see [USAID Advanced Directive System \(ADS\) 545 Information Systems Security](#) and [USG NIST 800-53](#)).

When the subaward closes out, the proposed solution must include the ability to extract all project data including calculated values and end user-generated algorithms generated within the DC&A system without any additional cost. In addition, the subawardee must adhere to Digital Square and USAID's data ownership language.

Subawardee must provide usage data monthly, including Monthly Active User (MAU) counts.

Under this, the subawardee must coordinate with Digital Square on determining the appropriate way to provision to Digital Square with administrative and fiscal rights to the cloud platform. The subawardee will charge Digital Square based on a combination of a package price and monthly usage fees, billed monthly as incurred.

In addition, the subawardee is not expected to propagate any data upstream to the other supply chain mechanisms. The existing and future supply chain subawardees as well as existing and future GH or country subawardees will be instructed to make their data available for the DC&A subawardee. The DC&A subawardee will potentially notify and work with GH country and supply chain subawardees to enable data exchange; the subawardee however will not be expected to push changes back to the GH or SC mechanisms.

Data Ownership (applies to this subaward and all sub subawards): The USG will receive a royalty-free, nonexclusive and irrevocable right to reproduce, publish, or otherwise use the work for Federal purposes, and to authorize others to do so to all USG generated/funded data, as defined in 2CFR200.315 and in



this clause. Data shall include recorded information first produced in performance of the subaward, delivered under the subaward, or used by the subawardee in performance of subaward, regardless of the source of such data (e.g. host country government data and other third-party data), and all raw data contained in any and all of subawardee's information systems related to subawardee's performance of the subaward, excepting information incidental to subaward administration, such as subawardee's financial, administrative, cost or pricing, or management information. Information incidental to subaward administration, however, does not include financial information regarding subawardee's internal operations that allows USAID to assess subawardee's efficiency. For example, the subawardee must provide financial data related to the costs of the operations of running the DC&A system, monthly financial statements provided by TOLIN to each funding unit, unit costs associated with operations, and any other cost data for which the subawardee is getting reimbursed by the government on a cost reimbursement basis. Data includes global operations data, including information regarding orders and shipments, in-country technical assistance data, calculated values as well as end user-generated algorithms. The subawardee will not use, release to others, reproduce, distribute, or publish any data except as required for performance of the subaward, or as approved in writing by the TOCOR. Further, in negotiating subcontracts under the subaward, subawardee will not agree to any terms or conditions that may impinge on the Digital Square or the government's data ownership.

V. Application Requirements - Cost

All budgets should be organized based on types of costs as set forth in the section immediately below. A detailed budget should be provided for the total period of performance and submitted in an unlocked excel worksheet. Budget notes should accompany the detailed budget. All costs must be submitted in United States dollars (USD).

Estimated Amounts for the Cost Application

The magnitude of the requirement for this application for Phase I is between \$300,000-\$400,000 USD for a single year activity. The magnitude of the requirement for this application for Phase II is between \$50,000-60,000 USD per month for an eight-month period of performance. This range is just an estimate provided for informational purposes to the offerors and is not binding.

The applicant should provide a detailed explanation of Phase I and II costing at a full detail level and describe in the cost notes the cost reasonableness of each proposed cost.

Digital Square will evaluate the quoted prices and hourly rates. No analysis will be performed on quotes determined as non-responsive or if the technical quote is determined to be technically unacceptable. The price/business evaluation will be conducted in accordance with the quoted utility-based solution and proposed labor categories, their rates and Evaluation Matrix. Digital Square will conduct an analysis to determine if all quoted prices are reasonable. This evaluation is conducted with the expectation of adequate price competition and will rely heavily on market forces to determine whether proposed prices are fair and reasonable. The comparison of proposed prices in response to this solicitation is the preferred and intended price analysis technique.

Digital Square will also compare the proposed prices to historical prices paid for the same or similar services and the independent government cost estimate. Other techniques and procedures may be used



to ensure quoted prices are fair and reasonable. A cost realism analysis will be performed to determine whether the quoted Level of Effort is realistic for the work to be performed, reflects a clear understanding of the requirements and is consistent with the unique methods of performance set forth in the company's technical quote.

Note that while future years may be added upon the approval and at the request of USAID, the cost notes should only detail an eight-month period of performance.

Required Elements

The Cost Application shall include a budget narrative, detailing the cost and cost basis applied in generating the application. The Cost Application should also include a detailed budget that is itemized along the cost categories defined above. This detailed budget should be submitted in an unlocked Excel spreadsheet and must include the following information:

- Personnel at minimum the budget should detail:
 - All proposed staff/positions with daily rates.
 - Total number of days in total level of effort according to key staff.
- Itemization of all other costs (e.g., agency costs, service tax, administrative costs, supplies, etc.).
- Estimated schedule of other anticipated expenses (travel, subawardee resources, supplies, outside resources, etc.).
- Details of all subcontracting out of work, this includes proposed consultants as well as proposed subawardees.
- A detailed explanation in both narrative and cost spreadsheet detailing which cloud service provider the applicant is proposing and a reference sheet noting how the proposed provider was selected. This should include a cost sheet detailing out at least three bids or cost estimates from three providers.

The Cost Application shall begin with a summary budget detailing costs in the following categories:

Description	Total Cost (USD)
Personnel	
Fringe Benefits	
Travel	
Equipment	
Supplies	
Other Direct Costs	



Contractual	
Consultants	
Total Direct Costs	
Indirect Costs	
Total Project Costs	

Special Note on Indirect Costs

Indirect costs are overhead expenses incurred as a result of the project but not easily identified with the project's activities. These are administrative expenses that are related to overall general operations and are shared among projects and/or functions. Examples include executive oversight, existing facilities costs, accounting, grants management, legal expenses, utilities, and technology support.

If your organization includes indirect costs in the budget, you must provide a Negotiated Indirect Cost Rate Agreement with the US Government or three years of audited financials to PATH to validate the use of this rate.

VI. Application Requirements – Technical

Provide a narrative on your technical approach to accomplish the Scope of Work identified in section IV, including:

- Description of technical approach which includes:
 - Problem statement and solution approach.
 - A description of how your solution will accomplish each of the subtasks in this application, with an overview of the cloud components to be used.
 - A description of how your solution will scale to growing needs of users across the globe.
 - Cost drivers for those cloud components with usage-based pricing, with an estimate of costs. Please provide a brief narrative on how you anticipate all cloud costs will scale with usage.
 - How end-users receive support, to include: opening trouble tickets; monitoring their resolution.
 - The proposed tables of content for each user and technical documentation set of your solution, and a summary of how the documentation will be made accessible.
 - Timeline and milestones for when your solution will be available to end-users.
 - Notional roadmap for your solution, aligned to the subtasks in this application.
 - Potential obstacles and plans to overcome them.
- Timeline to meet the deliverables.



- Identification of major internal and external resources.
- Profile of relevant corporate qualifications.
- A summary of at least three solutions developed in the cloud, using a leading cloud service provider, to include:
 - Problem statement and solution approach.
 - A summary of cloud services used and a brief description of how they were used.
 - Instructions for how the evaluation team can access the solution.
 - Discussion of project management and roles of project team.
 - Lessons learned on how to best utilize cloud technologies.
- Profile of relevant experience and examples of related work.
- Staffing plan accompanied by Curriculum Vitae (CV) for key technical positions.
- List of certifications possessed by each key technical personnel.
- Number of years in business.

Annual revenue

If your company has more than one location, please indicate these qualifications for the site that is responding.

VII. Additional Attachments

1. Illustrative Work Plan. An illustrative first year work plan timeline should be included in the Annex. This work plan should include illustrative results and describe specific interventions to achieve those results. The illustrative work plan should describe specific interventions (activities) planned for the relevant tasks and should include a timeline providing target dates for achievement of milestones and illustrative results.
2. Resumes and Letters of Commitment for all proposed Key Personnel. A complete and current resume must be submitted for each key personnel position, detailing the requisite qualifications and experience of the individual. Qualifications, experience and skills shall be placed in chronological order starting with most recent information.
3. Staffing Plan. Offerors shall include a staffing plan, including specific position titles and the approximate level of participation for each position (percentage of Full Time Equivalent and time period).
4. Third tier Subawardee Agreements, Contracts or Commitment. Offerors may submit any agreements, contracts or commitments it has with any potential third tier- subawardee.
5. Past Performance Information Sheets.
6. Awards. Include any information on awards or certifications.

VIII. Application Evaluation Criteria

The following is a list of significant criteria against which applications will be assessed.

1. Technical Approach that conforms to all of the components listed in Section VI above **(40 points)**
 - Description of technical approach.



- Timeline to meet the deliverables.
 - Identification of major internal and external resources.
 - Qualifications
 - A summary of at least three solutions developed in the cloud, using a leading cloud service provider.
 - Profile of relevant experience and examples of related work.
 - Staffing plan accompanied by CVs for key technical positions.
 - List of certifications possessed by each key technical personnel.
 - Number of years in business.
2. Experience - to be validated by past performance references (**15 points**).
 3. Experience with USAID information system requirements (including security requirements) - to be validated by past performance references (**15 points**).
 4. Costs - as detailed in Section V (**30 points**).

Note: PATH reserves the right to include additional criteria.

VIII. Instructions and Deadlines for Responding

A. PATH contacts

Program Contact: Kelly Fallt; kfallt@path.org

Procurement Contact: Teresa Gingras; tgingras@path.org

Technical Lead Contact: Carl Leitner; cleitner@path.org

B. Applications Due: January 24, 2019

Completed applications should be submitted by email to the contacts listed above. The subject line of the email should read: "RFA # 2018-048 Development of Cloud-based System for the Data Collection and Analysis of Supply Chain Data- (Applicant name)"

We advise that you send files in commonly recognized MS formats. We will not accept responsibility for resolving technical transmission problems with applications. A hard copy of the application should not be sent. Your application should only include information specific to accomplishing the scope of work. Additional information submitted outside of the application requirements will be reviewed at PATH's discretion only. Elaborate materials, artwork or other information not directly related to the scope of work are not suggested.

C. Live Q&A Teleconference

During the RFA submission process, one live teleconference will take place on January 8, 2019 at 11am EST to address any questions related to RFA # 2018- 048. All submitters are welcome to join and for those unable to attend, or for those wanting to reconfirm answers to questions, a recording of the Q&A session will be posted on the Digital Square wiki page found here: https://wiki.digitalsquare.io/index.php/Main_Page . Attendance at the Q&A session will not affect the scoring of applications.



Anonymity

As this will be a live teleconference, submitters choosing to attend are requested to follow the steps outlined below to assist in maintaining bidder anonymity.

Signing in to the meeting

To join the teleconference, there are two options, dial-in and browser-based. Please see the appropriate instructions based on your available resources.

Either entry will require the following meeting ID when prompted: **286 589 381**

Browser-based

Please join by clicking the following link: <https://path.zoom.us/j/286589381>

If you are new to zoom, you will be prompted to enter your email address and name. Please enter the following:

- Email Address: please leave this field blank
- Name: "Anonymous"

Note: If you already have a Zoom account, please be sure to log out of your account so you are not automatically identified upon joining the meeting.

Dial-In

To join the meeting over the phone, please visit this website to locate your international and toll-free number: <https://zoom.us/j/abZgmMZwDj>

Note: If you are joining by phone, your phone number will show up as your participant name in the list of participants on the browser-based version, thus participants are encouraged to join via the browser-based version when available. The host will change your number to "Anonymous" upon entry, but this is not guaranteed as multiple participants will require management during the call.

Asking a question

Participants are encouraged to join the teleconference with prepared questions, feel free to submit these questions in the chat box and we will address them during the session. There are two options for submitting a question during the Q&A teleconference:

- Chat: when accessing the teleconference via a browser, an option to select "chat" will appear in the bottom of the screen. Please feel free to type your questions to "everyone" and they will be addressed during the session.
- Voice: during the meeting, please place yourself on mute so that others in the meeting can easily hear the moderator. However, when prompted, please feel free to unmute your microphone and state your questions directly to the moderator.

For additional questions, Zoom User guides and support can be found at <https://support.zoom.us/hc/en-us>

D. Conclusion of Process

Applicants will be notified of the decision by January 30, 2019. Final award is subject to the terms and conditions included in this solicitation, as well as successful final negotiations of all applicable terms and conditions affecting this work.



IX. Terms and Conditions of the Solicitation

A. Notice of non-binding solicitation

PATH reserves the right to reject any and all bids received in response to this solicitation and is in no way bound to accept any application. The applications submitted through this RFA process are the responsibility of the submitter and do not necessarily reflect the views of the United States Agency for International Development (USAID), the United States Government, or PATH.

B. Confidentiality

All information provided by PATH as part of this solicitation must be treated as confidential. In the event that any information is inappropriately released, PATH will seek appropriate remedies as allowed. Applications, discussions, and all information received in response to this solicitation will be held as strictly confidential, except as otherwise noted.

C. Conflict of interest disclosure

Suppliers bidding on PATH business must disclose, to the procurement contact listed in the RFA, any actual or potential conflicts of interest. Conflicts of interest could be present if; there is a personal relationship with a PATH staff member that constitutes a significant financial interest, board memberships, other employment, and ownership or rights in intellectual property that may be in conflict with the supplier's obligations to PATH. Suppliers and PATH are protected when actual or perceived conflicts of interest are disclosed. When necessary, PATH will create a management plan that provides mitigation of potential risks presented by the disclosed conflict of interest.

D. Communication

All communications regarding this solicitation shall be directed to appropriate parties at PATH indicated in Section VIII. A. Contacting third parties involved in the project, the review panel, or any other party may be considered a conflict of interest and could result in disqualification of the application.

E. Acceptance

Acceptance of an application does not imply acceptance of its terms and conditions. PATH reserves the option to negotiate on the final terms and conditions. We additionally reserve the right to negotiate the substance of the finalists' applications, as well as the option of accepting partial components of an application if appropriate.

F. Right to final negotiations

PATH reserves the option to negotiate on the final costs and final scope of work, and also reserves the option to limit or include third parties at PATH's sole and full discretion in such negotiations.

G. Third-party limitations

PATH does not represent, warrant, or act as an agent for any third party as a result of this solicitation. This solicitation does not authorize any third party to bind or commit PATH in any way without our express written consent.

H. Application Validity

Applications submitted under this request shall be valid for 90 days from the date the application is due. The validity period shall be stated in the application submitted to PATH.