

Terms of Reference



Empowered lives.
Resilient nations.

GENERAL INFORMATION

Title: Data Science Advisor (International Consultant)
Project Name: Pulse Lab Jakarta/UN Global Pulse
Reports to: Data Scientist
Duty Station: Home based with two trips to Jakarta
Expected Places of Travel: Jakarta
Duration of Assignment: July to December 2018 (50 working days)

REQUIRED DOCUMENT FROM HIRING UNIT

<input checked="" type="checkbox"/>	TERMS OF REFERENCE
<input checked="" type="checkbox"/>	CONFIRMATION OF CATEGORY OF LOCAL CONSULTANT, please select:
	(1) Junior Consultant
	(2) Support Consultant
	(3) Support Specialist
	(4) Senior Specialist
	(5) Expert/ Advisor
<input checked="" type="checkbox"/>	CATEGORY OF INTERNATIONAL CONSULTANT, please select:
	(6) Junior Specialist
	(7) Specialist
	(8) Senior Specialist
<input checked="" type="checkbox"/>	APPROVED e-requisition

REQUIRED DOCUMENTATION FROM CONSULTANT

<input checked="" type="checkbox"/>	Signed P11
<input checked="" type="checkbox"/>	Copy of education certificate
<input checked="" type="checkbox"/>	Completed financial proposal
<input checked="" type="checkbox"/>	Completed technical proposal

Need for presence of IC consultant in office:

- ☒ no requirement
☐ intermittent
☐ full time/office based

The consultant is required to provide expert advice and mentoring to the data analytics team in Jakarta which can be done remotely. Irregular visits to Pulse Lab Jakarta and missions to countries where PLJ is operating across Southeast Asia and the South Pacific may arise.

Provision of Support Services:

Office space: ☐ Yes ☒ No
 Equipment (laptop etc): ☐ Yes ☒ No
 Secretarial Services: ☐ Yes ☒ No

Signature of the Budget Owner:

I. BACKGROUND

Global Pulse is an innovation initiative in the Executive Office of the United Nations Secretary-General, harnessing today's new world of digital data and real-time analytics to gain a better understanding of changes in human well-being. Global Pulse is being implemented as a global network of Pulse Labs, bringing together expertise from UN agencies, governments, academia, and the private sector to research, develop, test and share tools and approaches for harnessing real-time data for more effective and efficient policy action. For more information on Global Pulse go to www.unglobalpulse.org.

Pulse Lab Jakarta

Global Pulse established a Pulse Lab in Jakarta in 2012 in partnership with the Government of Indonesia. Pulse Lab Jakarta functions as an open innovation space where policy experts together with UN development practitioners and other partners experiment with new types of data and emerging technologies to evaluate their potential to enhance both public policy decision-making and community resilience. Following the development of useful approaches, Pulse Lab Jakarta supports institutional adoption of these innovations into policy and practice.

Data Science Advisor

Given the rise in demand for big data analytics across the Asia Pacific region, PLJ intends to engage a data science advisor with expertise in data science who can provide advice and mentoring to the analytics team on a part time basis. The advisor will be able to provide reach out to his/her established network to engage on the use of big data analytics in general. They will be able to advise PLJ's data science team on new methods and publications relevant to PLJ's research. The advisor will be familiar with data science for the development and humanitarian sector and can contribute ideas and horizon scanning from private sector. The advisor will review PLJ's existing data portfolio and suggest general improvements and additions to ensure its in line with PLJ's strategic workplan.

Work Relationships

The Data Science Advisor will report to the Head of Office or, as assigned, to other senior members of Pulse Lab Jakarta.

II. SCOPE OF WORK, ACTIVITIES AND DELIVERABLES

Pulse Lab Jakarta would like the Data Science Advisor to offer support and guidance to the data analytics team, reviewing methods, sharing scientific findings, exploring new methodologies and providing advisory support to PLJ in terms of developing its data science portfolio.

The advisor will

- Provide scientific support through methods sharing and technical advice to PLJ data analytics team
- Provide specific technical advice in the form of documented exchanges to PLJ data analytics team on data analysis including scripting, coding and web design.
- Provide analytics on layering non traditional datasets in a visually compelling manner and provide advisory support to development of new and relevant prototypes delivered through documented online exchange
- Provide new methods in the data science field that are relevant to development and humanitarian sector delivered through a report
- Lead two trainings/webinars/speaking engagements (as defined by PLJ) to broad range of stakeholders on big data for the development and humanitarian sector
- Think strategically about the uses of data and how new digital data sources can contribute to driving efficiency across the development and humanitarian sector
- Design and implement statistical data quality procedures around new data sources
- Advise on developing new approaches to detecting events and trends within real-time data sources such as online media, social networks, imagery, geospatial data, communications logs, transactions records etc.
- Deliver a technical report on the scalability of two of PLJ's prototypes

Expected deliverables:

Deliverables/ Outputs	Estimated Number Of Working Days	Target Due Dates	Review and Approvals Required
Report on scientific support through methods sharing and technical advice to PLJ data analytics team	5	31 st July 2018	Head of Office
Provide report specific technical advice in the form of documented exchanges to PLJ data analytics team on data analysis including scripting, coding and web design.	10	31 st August 2018	Head of Office
Provide analytics report on layering non traditional datasets in a visually compelling manner and provide advisory support to development of new and relevant prototypes delivered through documented online exchanges	10	28 th September 2018	Head of Office
Report on new methods in the data science field that are relevant to development and humanitarian sector delivered through a report	10	31 st October 2018	Head of Office
Report on leading two trainings/webinars/speaking engagements (as defined by PLJ) to broad range of stakeholders on big data for the development and humanitarian sector	5	30 th November 2018	Head of Office
Deliver a technical report on the scalability of two of PLJ's prototypes	10	31 st December 2018	Head of Office

III. WORKING ARRANGEMENTS

Institutional Arrangement.

The advisor will report to the PLJ Head of Office and will liaise closely with the rest of the team. In the performance of her/his duties the advisor will engage with Pulse Lab Jakarta's partners.

Duration of the Work

The assignment involves 50 working days, with completion expected by 31st December 2018.

Duty Station

The work will be home based with some mission travel expected to PLJ's priority markets. PLJ will cover travel costs in line with UNDP financial rules and regulations.

Travel Plan

Below is an indicative travel plan for the duration of the assignment. There may be also unforeseen travel that will come up during the execution of the contract which will be agreed on ad-hoc basis and contingent to the request of clients.

No	Destination	Frequency	Duration/days
1	Jakarta	2 time	10 overnight stays

IV. REQUIREMENTS FOR EXPERIENCE AND QUALIFICATIONS

I. Academic Qualifications:

PhD or Masters degree (or equivalent) in Computer Science, Mathematics, Applied Mathematics, Physics, Statistics, Engineering or other related disciplines.

II. Experience:

- Six years (PhD degree) or 15 years (Master degree) of progressively responsible experience in data analysis or data visualization, quantitative and qualitative data, Big Data, mobile phone call

detail records, social network data, or geospatial data/satellite imagery required;

- Experience with scripting, coding, and web design for data access, analysis and presentation required;
- Familiarity with analytical techniques such as text mining, sentiment analysis, machine learning, predictive analysis, event detection, or modeling of complex systems desirable;
- Experience working in the fields of global development or humanitarian sector desirable;
- Experience analyzing data from social monitoring systems, monitoring and evaluation work, or other survey work in developing countries and writing scientific articles desirable.
- Demonstrated experience presenting work to both technical and non-technical audiences and leading a data science team;

III. Competencies:

- Excellent analytical and technical skills in data science
- Contributes effectively to team-based activities, working collaboratively and sharing information openly; works effectively with colleagues as well as with partners and other stakeholders to pursue common goals;
- Facilitates and encourages open communication in the team, communicating effectively; offers advice diplomatically
- Remains calm, composed and patient when facing conflict, manages conflict productively, focusing on mutually acceptable solutions;
- Takes initiative and seeks opportunities to initiate action;
- Actively produces and disseminates new knowledge; creates/contributes to mechanisms to collect and share knowledge;
- Proposes innovative ideas and new solutions to challenges.

IV. Functional Competencies:

- Ability to speak and write persuasively in English, adapting style and content to different audiences;
- Proficient in speaking with wide range of stakeholders, from government counterparts to private sector companies;
- Ability to communicate insights, expertise and trends in a way that non-specialists can comprehend;
- Good presentation skills in a workshop setting.
- Teaching and advisory skills building capacity within diverse range of teams
- Professional and intellectual interest in development and humanitarian sectors.

V. EVALUATION METHOD AND CRITERIA

Individual consultants will be evaluated based on the following approach:

Cumulative analysis

When using this weighted scoring method, the award of the contract should be made to the individual consultant whose offer has been evaluated and determined as:

a) responsive/compliant/acceptable, and

b) Having received the highest score out of a pre-determined set of weighted technical and financial criteria specific to the solicitation.

** Technical Criteria weight; 70%*

** Financial Criteria weight; 30%*

Only candidates obtaining a minimum of 70 points would be considered for the Financial Evaluation

Criteria	Weight	Maximum Point
<u>Technical</u>	70	70
• Criteria A: qualification requirements as per TOR:	70	70

1. PhD or Masters degree (or equivalent) in Computer Science, Mathematics, Applied Mathematics, Physics, Statistics, Engineering or other related disciplines		10	
2. Six years (PhD degree) or 15 years (Master degree) of progressively responsible experience in data analysis or data visualization, quantitative and qualitative data, Big Data, mobile phone call detail records, social network data, or geospatial data/satellite imagery		10	
3. Experience with scripting, coding, and web design for data access, analysis and presentation		10	
4. Familiarity with analytical techniques such as text mining, sentiment analysis, machine learning, predictive analysis, event detection, or modeling of complex systems		10	
5. Experience working in the fields of global development or humanitarian sector		10	
6. Experience analyzing data from social monitoring systems, monitoring and evaluation work, or other survey work in developing countries and writing scientific articles		10	
7. Demonstrated experience presenting work to both technical and non-technical audiences and leading a data science team		10	
<ul style="list-style-type: none"> Criteria B: Brief Description of Approach to Assignment (based on technical proposal submitted as part of application) <ol style="list-style-type: none"> Understands the task and applies a methodology appropriate for the task Important aspects of the task addressed clearly and in sufficient detail Logical, realistic planning for efficient project implementation. 	30	30	