



Wisma Nusantara 5th Floor  
Jl. MH Thamrin No. 59  
Jakarta 10350 - Indonesia

## **Terms of Reference**

### **RESEARCH DIVE FOR DEVELOPMENT**

#### **Theme: Urban and Regional Development**

**(25 - 28 March 2018, Jakarta)**

## **1. INTRODUCTION**

United Nations Global Pulse<sup>1</sup> is a special innovation initiative of the UN Secretary-General on big data and the data revolution.<sup>2</sup> It tests new approaches using big data and frontier technologies such as machine learning and artificial intelligence, to inform public policy across different sectors such as urban dynamics, trade and competitiveness, climate change and humanitarian action. Pulse Lab Jakarta (PLJ) is a joint project of the United Nations and the Government of Indonesia, through UN Global Pulse and Indonesian Ministry of National Development Planning (Bappenas), respectively.

As part of its network catalyst function, Pulse Lab Jakarta strives to build links between academic communities, policy analysis and new technologies. Towards this objective the Lab hosts three *research dives for development* each year on different themes and methods in collaboration with universities and public authorities. The events bring together mid-career researchers for a four-day hackathon-style research collaboration.

The digital revolution and the rising internet penetration continues generating abundant citizen' digital trace, which provide more opportunity to observe behavioural patterns, especially in urban areas. Data-driven-city, smart cities, are few names of phenomenon which leveraging the use of new types of data, innovation and latest technology to better understanding dynamics of the city for developing sustainable and resilient city. The sixth Research Dive hopes to make a contribution to this cause by enhancing the familiarity of researchers with several datasets, including news and social media data, geospatial data, official statistics, among others. The sixth research dive aims to generate insights on water access, energy consumption, health, and regional development.

## **2. RESEARCH DIVE FOR DEVELOPMENT**

A research dive for development is not a competition but a “collaborative” research event where a small group of researchers together explore and analyze the given data sets within the four-day event. The datasets are related to development and humanitarian issues in Indonesia. Upon finalised the research, each group is encouraged to write the extended abstract in terms of the research results. The extended abstract from each group is then compiled into a technical report.

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<sup>1</sup> <http://unglobalpulse.org>

<sup>2</sup> <http://undatarevolution.org>



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More information on previous research dives for development and their technical reports is available here:  
[http://rd.pulselabjakarta.id/previous\\_dives](http://rd.pulselabjakarta.id/previous_dives).

## 2.1. PARTICIPANTS

PLJ intends to invite about **16 mid-career researchers** from Indonesian universities or research institutions in urban planning, geography, environment, economics, statistics, mathematics, and computer science. In particular, we are interested in the following profiles:

- Lecturers with a postgraduate degree (master or doctor) with (a) two to seven years of relevant research or teaching experience in areas related to the research tasks, highlighted below, and (b) two or more scientific/technical publications; or,
- Researchers pursuing doctoral degree with two or more scientific/technical publications in fields related to the research tasks, below; or,
- Researchers with a doctoral degree in related disciplines but no longer than six years experience post-doctorate.

## 2.2. RESEARCH TASK

PLJ invites applicants specifically who can work on the following four research tasks:

- Task 1 - Designing regional development policy by analysing social events, news media data and its network from GDELT platform<sup>3</sup>.
- Task 2 - Assessing the accessibility to (emergency) health facilities in Sumatra, by analysing multiple sources of data such as transportation infrastructure distribution and health facility locations.
- Task 3 - Monitoring water access for water supply infrastructure planning.
- Task 4 - Inferring energy consumption towards urban development by combining social media activity density and socio-economics statistics.

## 2.3. APPLICATION

Each applicant is encouraged to submit:

- an Expression of Interest (optional but strongly recommended) by **9 March 2018** at [bit.ly/RD6-EOI](http://bit.ly/RD6-EOI), and
- an application **(one PDF)** by **23.59 WIB on 12 March 2018** through easy chair at this link: [bit.ly/easychair-RD6](http://bit.ly/easychair-RD6).
  - Curriculum Vitae in English (including year of education, list of research and publications, without including any certificates);
  - A recommendation letter in English from anyone familiar with the applicant's research skills; and,
  - An one-page document in English that clearly explains the applicant's first and second preference among the four tasks, highlighted above, covering (a) the applicant's relevant research experience and (b) her/his ideas for potential approaches to tackle the tasks of interest.

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<sup>3</sup> "GDELT monitors the world's news media from nearly every corner of every country in print, broadcast, and web formats, in over 100 languages, every moment of every day." (<https://www.gdeltproject.org/>)



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PLJ will select the final list of participants (about 16 individuals), based on (a) academic background, (b) research experience including publication records, and (c) the quality/relevance of the applicant's suggested approaches to data analysis.

PLJ will cover participants' expenses including transportation (from outside-Jakarta only), meals and snacks, and accommodation for the duration of the event, **however, PLJ will not extend an invitation if a candidate cannot attend the full duration of the event.**

Should you have any inquiry, feel free to contact.

- [plj-proposals@un.or.id](mailto:plj-proposals@un.or.id)
- Office phone: +62 21 3983 8473 (Ms. Dikara/Ms. Zakiya)
- PLJ Research Dive: <http://rd.pulselabjakarta.id>
- Additional Information Package: <https://bit.ly/RD-6>

## 2.4. EXPECTED OUTPUTS

As part of the research dive for development, each team is invited not only to present their results at the end of the event, but also to publicise their findings as part of the Technical Reports and their analysis methodologies and toolkits used for producing the results. PLJ strongly encourages the participants to publish the results in academic journals, conferences or workshops.

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### 3. SCHEDULE

**(EN):** Programme in English

**(ID):** Programme in Bahasa Indonesia

| DATE                      | TIME          | ACTIVITY   | VENUE                       |
|---------------------------|---------------|--|-----------------------------|
| <b>25 March<br/>(Sun)</b> |               | Participant Arrival and Hotel Check-in   | Holiday Inn<br>Wahid Hasyim |
|                           | 16:00 - 16:10 | Registration   |                             |
|                           | 16:10 - 16:30 | <b>(EN)</b> Greeting & Induction   |                             |
|                           | 16:30 - 18:30 | <b>(ID)</b> Group Brainstorming on Methods   |                             |
| <b>26 March<br/>(Mon)</b> | 08:00 - 10:00 | <b>(EN)</b> Opening & Security Briefing (15 mins)<br><b>(EN)</b> Domain Advisor Presentation (20 mins)<br><b>(EN)</b> Sharing Session on Methods (15 mins / Group) | Pulse Lab Jakarta<br>Office |
|                           | 10:00 - 21:00 | <b>(ID)</b> Research Dive  |                             |
| <b>27 March<br/>(Tue)</b> | 08:00 - 09:30 | <b>(EN)</b> Sharing Session on Updates (20 mins / Group)   |                             |
|                           | 09:30 - 21:00 | <b>(ID)</b> Research Dive  |                             |
|                           | 13.30 - 16.30 | <b>(EN)</b> Mini-workshop (20-30 mins / advisor)   |                             |
| <b>28 March<br/>(Wed)</b> | 08:30 - 11:00 | <b>(EN)</b> Final Presentation (30 mins / Group)   |                             |
|                           | 11.00 - 11:10 | Closing  |                             |