DT4D 1.0 Program Level Assessment

**Objectives**

- Mechanism to mainstream disruptive technologies across GPs and regions
- 5-10 scalable solutions at the regional or sectoral portfolio level
- Awareness and connections strengthened between WBG projects and technology providers

**Outcomes**

DT4D provided an inclusive, agile, and safe space for innovation with DTs

- Out of 10 DT4D funded pilots (covering 13 sectors), 7 delivered results with high scalability potential.
- DT4D's small-scale pilots empowered the project teams with autonomy and agility.
- ‘Blockchain for youth engagement’ team launched the WBG’s first sandbox with the support from DT4D program.
DT4D yielded scalable and open-source solutions that strengthen WBG’s operations in:

- Crisis response and disaster preparedness
- Supply chain optimization and mobility efficiency
- Access to education & 21st century skills
- Sustainable urban development
- Covid-19 response
DT4D served as a "Broker" of internal and external partnerships to harness DTs

- Internal partners included Innovation and Technology (ITS) Lab, LEGVP, ESA-EO Clinic, Agile Fellows program, IFC (Tech Emerge), Digital Development Partnership, Development Data Partnership, Innovate4Climate, and ID4D.

- External partners include World Economic Forum (WEF), IoT-GSMA, European Space Agency (ESA), and African Drone Forum (ADF).

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**Outcomes**

DT4D increased WBG preparedness for providing DT support through knowledge-sharing and community building.

- DT4D supported dissemination of project experience with drones, blockchain, satellite imagery, machine learning, crisis analytics, and mobility data analytics across different GPs and regions.
- 800+ staff in DT4D community benefited from 10 newsletters on DTs, 7 "Trends in Tech" expert interview videos and 4 knowledge events.
**Unlocking the lower skies – Accelerating Drone Technology Services in Africa**

Drone regulators summit convened 60 regulators from 26 African countries. The summit conducted a review of all regulatory gaps for the Unmanned Aerial Systems in the African continent.

**Incorporating drones in WBG operations:** The ADF initiated the discussion to include drones as a business line within the Transport sector. Haiti is the first country to introduce drones in its transport project.

**Country level engagement:** Ministries of ICT and Infrastructure in Rwanda have announced their intention to develop a National Drone Operation Hub and have sought for the Bank's support through operation.

**Regional level engagement:** The Secretary-General of the East African Community (EAC) requested for the Bank's support in building 1) regulation capacity for the Civil Aviation Safety and Security Oversight Agency and 2) developing harmonized drone market in EAC.

**The Power of Public Data: Disrupting Corruption and Money-Laundering in Brazil**

Developed 45 algorithms to detect 225 public expenditure red flags: The system allows investigators to make targeted and data-driven decisions, reducing their reliance on circumstantial evidence.

**Designed a highly scalable system:** With the Scalable Data Unification (SDL) approach, the marginal cost of replicating the system in other jurisdictions is dramatically reduced.

**Help governments around the world fight corruption:** The Ministries of Economy, Health, and Internal Comptroller, as well as other state governments in Brazil, have requested support.

The Vice Presidency of Colombia expressed interest in learning more about the project. The system to evaluate and detect risks from subcontractors. The Brazil procurement team has requested access to the system to evaluate and detect risks from potential local contractors.

**Green and Blue Footprints Tool: Decision Support for Living Cities**

Built a highly scalable and accessible tool: The tool produced a map of 219 water bodies over 40 locations with a 90% accuracy. A web-based dashboard allows easy data dissemination.

**Analyzed land cover changes in Jakarta from 1989-2018:** The findings highlighted the rapid decline of green areas in the city from 90%(1990) to 70%(2018).

**Produced Jakarta waterbody delineation map:** The team developed a water delineation map that meets regulatory standards with a 15% increase in average data accuracy compared to existing data.

**Paving the way to sustainable and technology-based urban development:** The rapid disappearance of the urban green and blue areas in Jakarta, as proven by the project, served as a compelling argument in launching the Sustainable Cities Impact Program by the Global Environment Facility (GEF).

**Enhancing Disaster Preparedness Through Smartphone Location Data**

Produced a code library ready to be packaged into an open-source toolkit: The team successfully developed a code library that can produce mobility patterns based on smartphone location data. The toolkit was scheduled to be delivered by late 2020.

**Strengthening WBG's disaster response across Central America.** New analytical methods using smartphone location data can bolster the Urban and Disaster Risk Management team's engagement in the region. Disaster resilience analysis will be expanded to other municipalities in Mexico beyond Mexico City.

**Building a new Covid-19 risk management platform leveraging DT4D deliverables**

The team is using insights and analytic tools developed with the DT4D grant as the foundation for a pandemic response platform.

**Covid-19 Response**

The team started a collaboration with the Ministry of Health to analyze the potential risk of a pandemic outbreak. The preliminary analysis of the Ministry's expenditure since the pandemic is complete. Further analysis encompassing the Ministry's all health-related expenditure can augment the Ministry's oversight capabilities and increase the efficiency of the government's Covid-19 response.

The green/blue tool offers options for remote supervision and strengthens development control mechanisms by leveraging satellite/drone imagery and AI/machine learning. In doing so, it reduces the need for on-site surveying, which is challenging in the context of constrained mobility brought about by the Covid-19 crisis.

Tools and knowledge to produce mobility patterns in Indonesia since the Covid-19 outbreak. The data generated can inform and guide policymakers’ responding, reopening, and recovery plans.
Knowledge Events

1. Disruptive Technologies for Development (DT4D) Program Overview Event (July 2019)
   - Introduced the DT4D program and winning projects and announced DT4D partnerships.
   - DT4D teams, including "Drones for Transport in Africa", "Green and Blue Footprints Tool", "Disaster Preparedness Through Smartphone Location Data", presented their projects and their implementation plans.

2. Operationalizing AI and Converging Technologies: Opportunities and Challenges (November 2019)
   - Hosted in partnership with ITS Technology & Innovation Lab and with a presentation from the DT4D team "Disrupting Corruption and Money-Laundering in Brazil".
   - Facilitated discussions on the challenges that could impede the adoption of AI and converging technologies in developing countries as proposals are developed for the next round of the DT4D program.
   - Discussion Topics included:
     - Progress, current state and likely future of AI and other converging technologies
     - Policy responses/frameworks for their adoption
     - Emerging opportunities and risks for development and developing countries.
3. Industrial Use of Drones? Opportunities and Challenges of Market Disruptions (July 2020) [180 participants and 260+ RSVPs]

- Offered insights into how policy makers and private sector are utilizing drones for Covid-19 response. Explored keys to creating an enabling policy environment for the industry.
  - Webinar Recording
  - Webinar Presentations
    - *The Drone Industry – Market Disruptions* by Catalina Ochoa and Edward Anderson)
    - *Zipline* – Provide every human on earth with instant access to vital medical supplies by Dan Czerwonka)
  - Webinar details can also be found on [FCI event page](#), [EFI COVID-19 page](#).
Knowledge Events

DT4D Experience Captured and Shared Through 4 DT4D-hosted Events

4. Solving Critical Development Challenges leveraging Disruptive and Transformative Technologies for Development (February 2021) [60+Participants, 120+ RSVPs]

- The final event highlighted three pilots from the first DT4D cohort as well as overall outcomes and lessons from the program:
  - Internal trends in terms of technologies and themes that WBG task teams have been most interested in over the past two years.
  - Presentations of the technology solutions from DT4D 1.0 pilots, including overviews of the following three project:
    - Portable Benefits Platforms
    - Disrupting Corruption and Money-Laundering
    - Disaster Preparedness Through Smartphone Location Data
  - How did DT4D 1.0 meet the expectations set at the onset of the program
  - Insights into the lessons learned from the DT4D 1.0 Implementation Phase
Knowledge Events

Supported Dissemination of Project Team & Partner Events to 800+ WBG Staff in the DT4D Community

• African Drone Forum (ADF) events (Feb 5-7, 2020)
  • Shared the RSVP and event livestream links and details on the ADF events including Lake Kivu Challenge, Expo and Symposium, Regulator’s summit, and Business Plan competition

• Mission Billion Challenge WURI West Africa Prize
  • Promoted the Challenge launch and raised awareness within the DT4D community
  • Shared 3 Webinars hosted in June 15 (150 participants), July 14 (200 participants), and July 29 (66 participants)

• Blockchain Technology for Youth Engagement and Value Exchange (Evoke) Events

• SD Data Clinic: "Using Mobile Phone Data to Support COVID-19 Response (Mar 2020)"
  • The DT4D teams "Enhancing Disaster Preparedness Through Smartphone Location Data" and "AI against crisis and conflict" presented how they are leveraging mobile phone data provided by the Data Partnership Development to support Covid-19 response.

• OECD & WBG Webinar: "Emerging Technologies to Improve Regulatory Capacity During COVID-19 and Re-opening (May 2020)"
  • OECD & WBG joint initiative presented the database of 60 initiatives spearheaded by the governments to leverage DTs in their Covid-19 response and explored future OECD-WBG partnerships in the area.
DT trends and insights shared with 1000+ BG staff in the DT4D community

• 5 DT4D Insights
  • The Insights provide a comprehensive package of DTs related announcements, information and resources, including but not limited to: **DT4D updates; trends on DTs with a focus on specific industries, regulations and policies; events, publications and other resources**

• 10 DT4D Newsletters – DTs for COVID-19
  • Provided a **curated list of innovative Covid-19 response initiatives** using AI, drones, EdTech, geospatial tech, digital platforms, robotics and other emerging technologies as well as innovative initiatives and financing opportunities
In 7 DT4D "Trends in Tech" video interview series, the DT experts shared latest tech trends, DTs implications for emerging markets and their intersections with the WB operations.

**Themes & Experts**

**EdTech**: Juliana Guaqueta Ospina (Education Specialist, IFC)

**Cleantech, energy storage & batteries**: Peter Mockel (Principal Industry Specialist, IFC)

**DTs to enhance Urban Food Ecosystem**: Banning Garrett (Faculty of Singularity Univ)

**Geospatial tech for sustainable development**: Christopher Aubrecht (Senior advisor & ESA rep. to the WB)

**Digital Innovation in Health**: Marelize Gorgens (Senior Specialist & Lead, AI in Health at WB)

**DTs in Health**: Monique F. Mrazek (Health tech Specialist, IFC)

**E-mobility(ride hailing & sharing, last-mile & long-haul logistics)**: Sean Peterson (IOO, Chief Operating Officer, IFC)