Bringing the Internet of Things to Global Health

Evan Thomas
Assistant Professor, Mechanical and Materials Engineering

CURRENT RESEARCH

Using sensors to track global health outcomes

Nearly a billion people in the world lack access to safe drinking water, two billion have inadequate sanitation facilities, three billion use biomass for their daily energy needs, and nearly half the world's population live in rural isolation, lacking access to the most basic human services. Combined, these limitations are a leading cause of the perpetuating cycle of poverty and political insecurity. Meanwhile, the majority of international development agencies are responsible for self-reporting project outcomes. At best, expert spot-checks are conducted in the field occasionally. These results tend to show individual project success, while meta-surveys indicate on-going challenges in the sector. Dr. Evan Thomas, of Portland State University, addresses this disconnect through cellular enabled electronic data monitoring technologies that provide objective data on system performance, which can be used to demonstrate success and identify project weaknesses. By demonstrating which technologies and programs are truly successful, Dr. Thomas can target opportunities for scaling, through savings realized by eliminating unsuccessful approaches. Thus, Dr. Thomas' research will benefit developing communities by providing proven and accountable programs.

Dr. Thomas' Sustainable Water, Energy, and Environmental Technologies Laboratory, or the SWEETLab, is working with partners to demonstrate this concept across several applications and countries. His technology can provide objective, quantitative, and continuous operational data on the usage and performance of programs across a range of sectors and communities. The data is then directly integrated into SWEETData, an Internet database presenting summary statistics on...

Read More at benefunder.com/

AFFILIATION

Portland State University

EDUCATION

- Ph.D., in Aerospace Engineering Sciences, 2009 , University of Colorado at Boulder
- M.P.H., in Public Health, 2014 , Oregon Health and Science University
- M.S., in Aerospace Engineering Sciences, 2006 , University of Colorado at Boulder
- B.S., in Aerospace Engineering Sciences, 2006 , University of Colorado at Boulder
- B.S., in Broadcast Journalism (Honors), 2006 , University of Colorado at Boulder

AWARDS

- Rockefeller Bellagio Academic Residency Fellowship, 2015
- University of Colorado at Boulder College of Engineering Recent Alumni Award, 2015
- Civic Engagement Award, Excellence in Community-Based Research, Portland State University, 2011
- NASA Johnson Space Center Doctoral Fellowship, 2008-2009
- NASA Johnson Space Center Engineering Achievement Medal, September 2007

RESEARCH AREAS

Life Science, Health IT, IOT, Devices, Data, IOT, Devices, Data

FUNDING REQUEST

Your contributions will support the continued research of Dr. Evan Thomas, of Portland State University, as he develops technologies that improve global health disparities. Donations will fund the necessary $200K/year required for lab engineering support staff, $200K/year for research and development, and $150K/year for graduate student support. In choosing to donate, you will play a role in "bringing the Internet of Things to global health."