



Tech trends in water quality monitoring at scale

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Akvo Foundation

World Water Week 2017
From data to decision: monitoring water quality at scale

akvo.org

13 years later

The digital revolution has barely started in our sector.

The future is digital

- “90% of digitally maturing organizations – companies in which digital technology has transformed processes, talent engagement, and business models – are integrating their digital strategy with the company’s overall strategy”

Are you re-organising?

- Do you have experienced CIO and CTO on your management team?
- A few IT people that used to manage your network, isn't going to cut it.
- Building the digital system you need in-house, isn't going to work.

SDG 6.1

Achieve universal and equitable access to safe and affordable drinking water for all.

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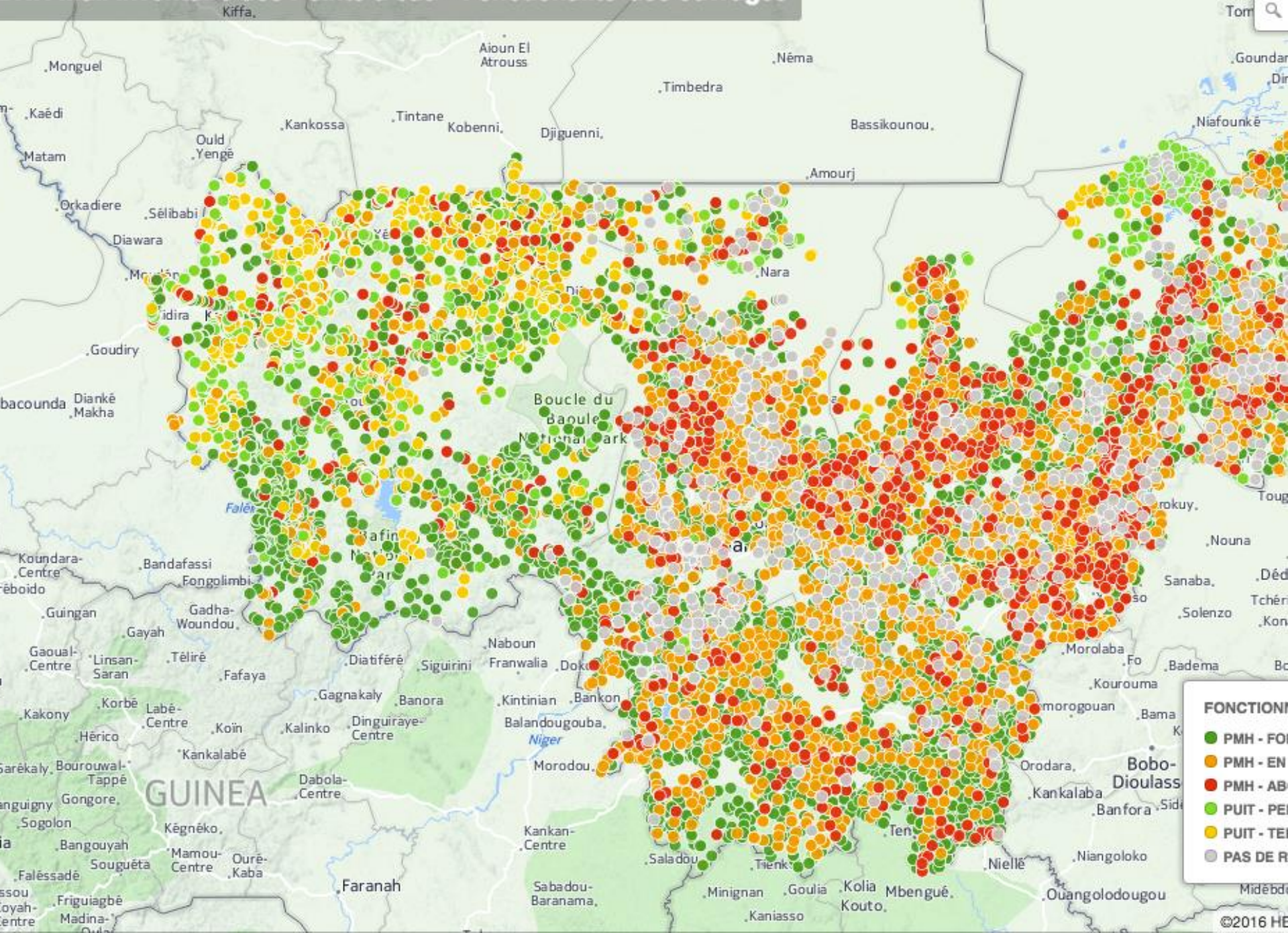
Data for indicator 6.1.1

Household surveys combined with population records for information on access and type of services.

Inclusion of water quality testing for **faecal contamination** and priority chemicals (**arsenic** and **fluoride**) by utilities and/or in household survey instruments.

High temporal and **spatial resolution** of institutional/utility data. Disaggregation of data by intra-household characteristics.

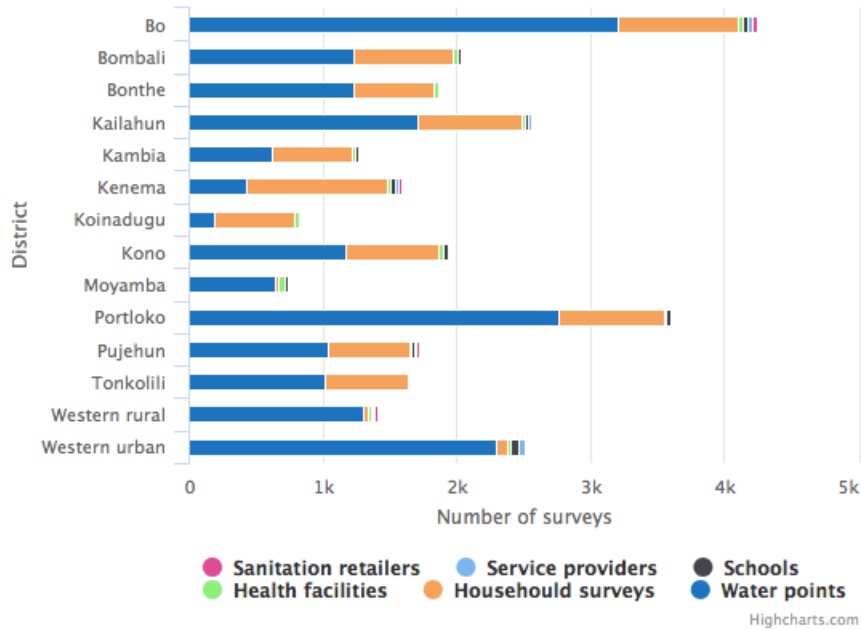
DNH Mali Inventaire des Points d'eau - Fonctionnalité des ouvrages



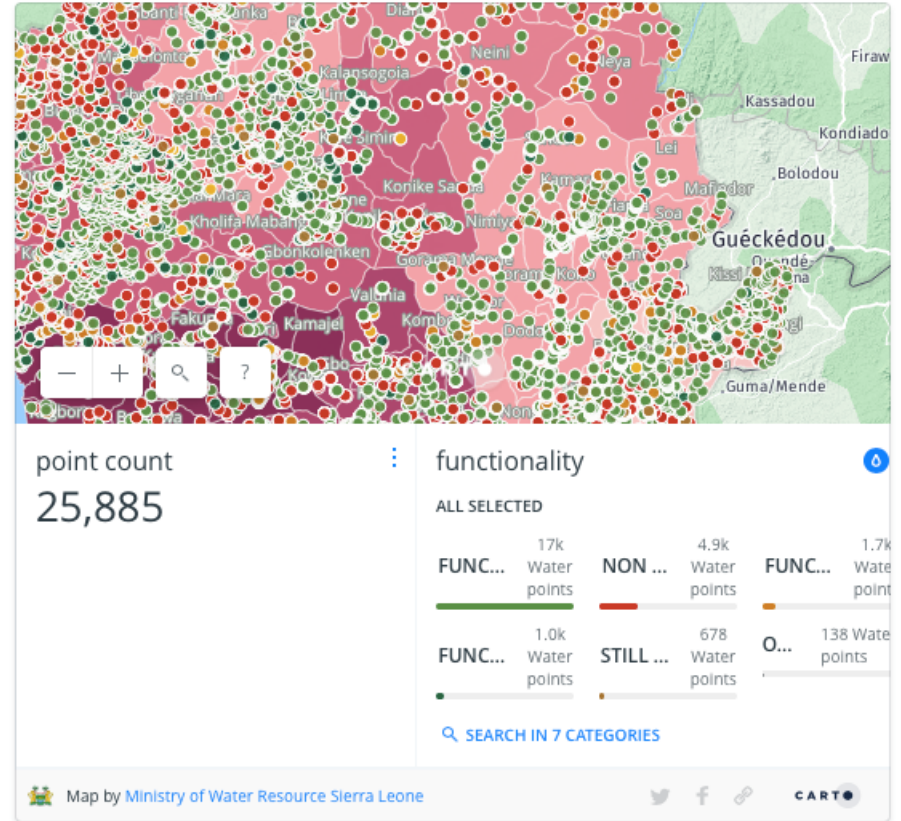
- FONCTIONN**
- PMH - FO
 - PMH - EN
 - PMH - AB
 - PUIT - PE
 - PUIT - TE
 - PAS DE R

Characteristics of survey findings

Questionnaires completed by district



Latest map: Water point functionality



Ongoing monitoring

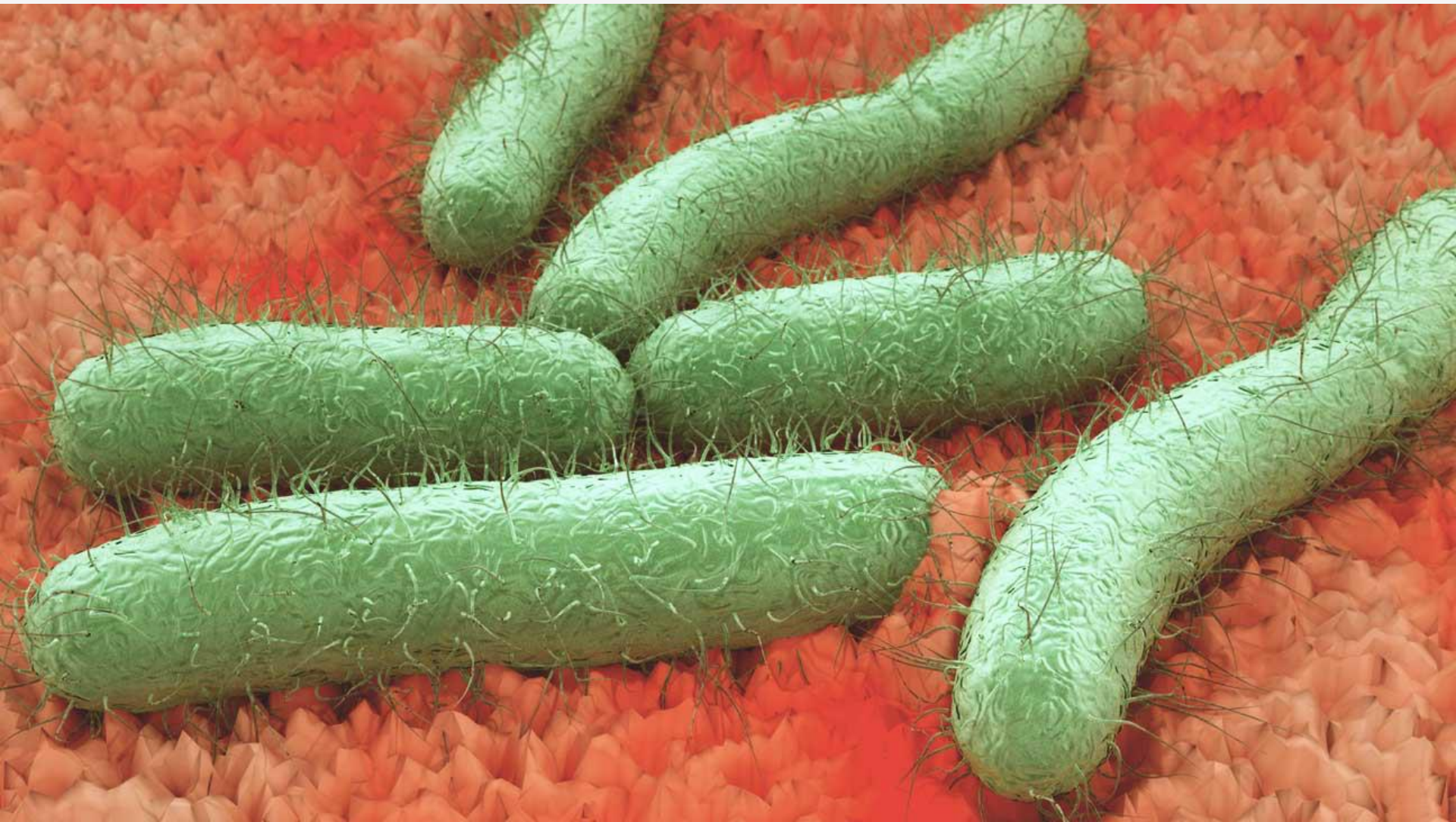
If your work isn't reflected in an on-going digital national monitoring system, at district level then you are doing it wrong.

We are at a transition
phase.

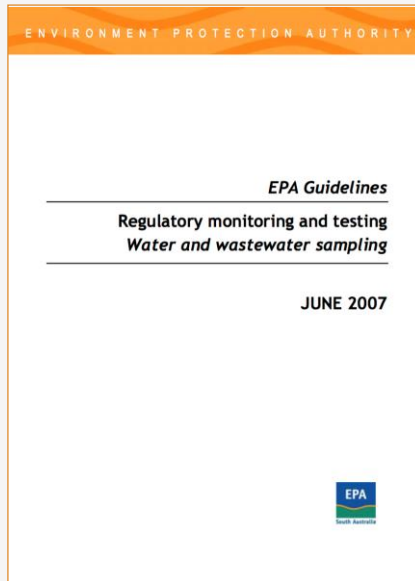
Adapt or ?



Faecal coliforms



Microbiological transport



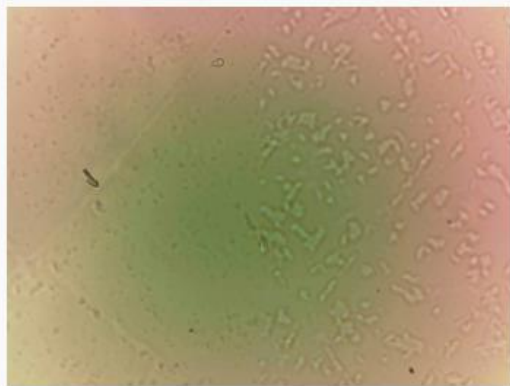
“Refrigeration: It is recommended that microbiological samples be refrigerated between **2°C and 10°C** (as per AS/NZS 2031:2001). Ice can be used to rapidly cool samples to 4°C before transport. Ice bricks are preferred over loose ice or dry ice.”



Glacierclean



Colifast



Raw Data



Assembling the OpenFlexure microscope

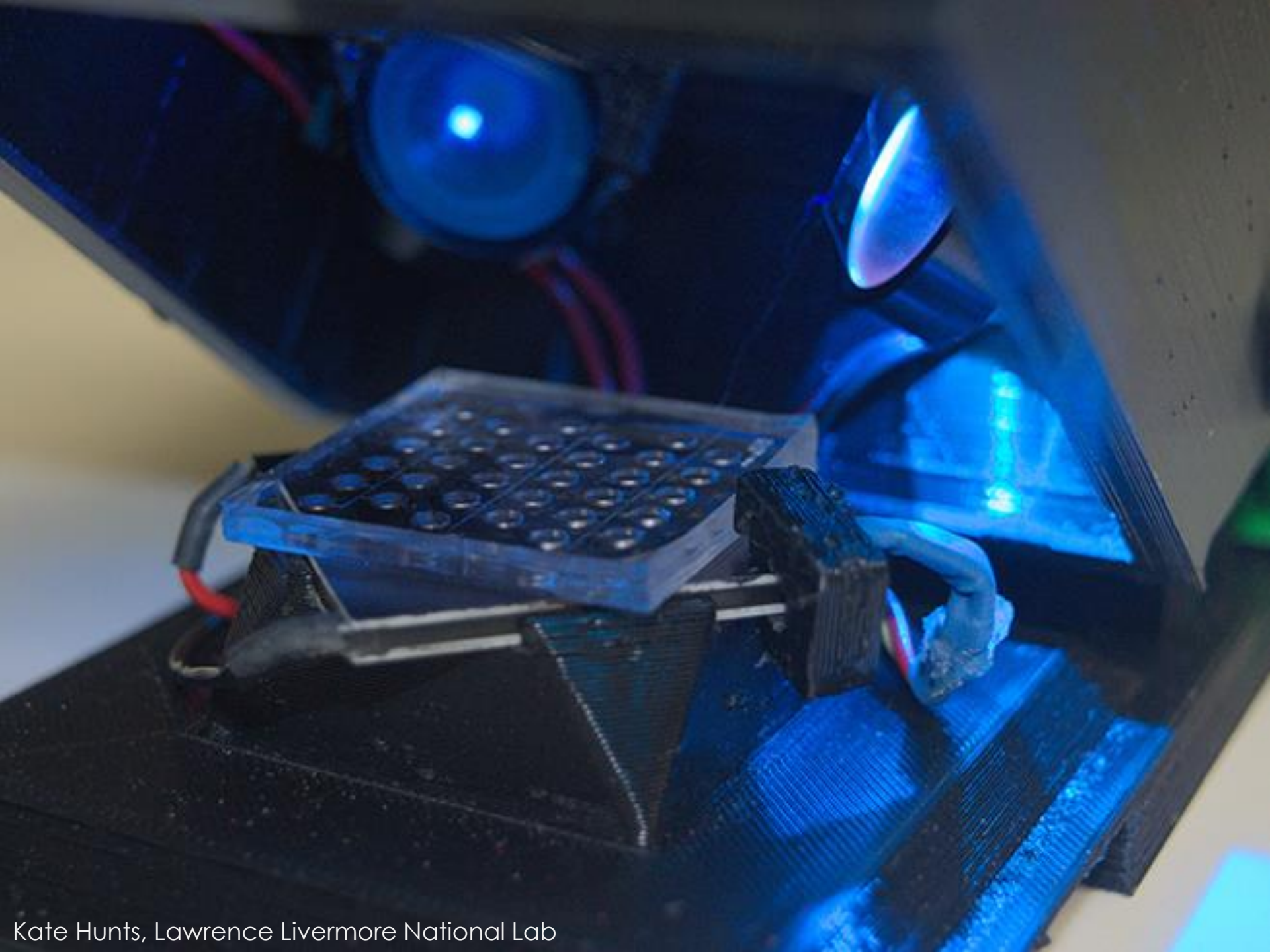
and connecting it to a Raspberry Pi

The OpenFlexure microscope is a build-it-yourself microscope which features a flexure-based XYZ stage with sub-micron precision and a range of 8mm.

Don't be fooled by its appearance. Because it's constructed using flexible plastic, its motion is free from friction and vibration. And because it can be connected to a Raspberry Pi, you can see pin-sharp detail on a smartphone, tablet or monitor, rather than the limited view through a traditional microscope.

Whether you [buy the assembly kit](#) or 3D-print the parts, assembling the microscope is relatively easy as well as rewarding.





Kate Hunts, Lawrence Livermore National Lab

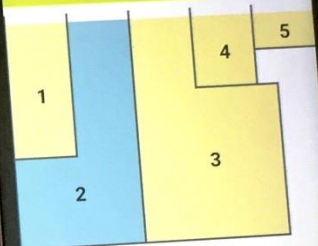




09:54

Set compartment colors

Change the colours of sections below to match the colours of the bag compartments in the test (click to change).



Next

IRL-PAK

Nasco
Aquagenx
WWW.NASCO.COM

1
10mL

3
56mL

5
1mL

IRL-PAK

Arsenic





Fluoride



Bluetooth connected



Tintometer

FFEM caddisfly

Fluoride
Residual chlorine
Chromium
Arsenic (in development)

Other water quality tests







26



We can **eliminate**
uncertainty around drinking water
quality and access, worldwide,
in 5 years.
If we work together.

akvo caddisfly

Live demonstrations of state-of-the-art
SDG 6.1.1 monitoring at scale.

Stand 23

