

PIT

LAB

PERVASIVE INTERACTION TECHNOLOGY LABORATORY



a **research and education lab** working with
Pervasive Computing and IoT, along full data lifecycles

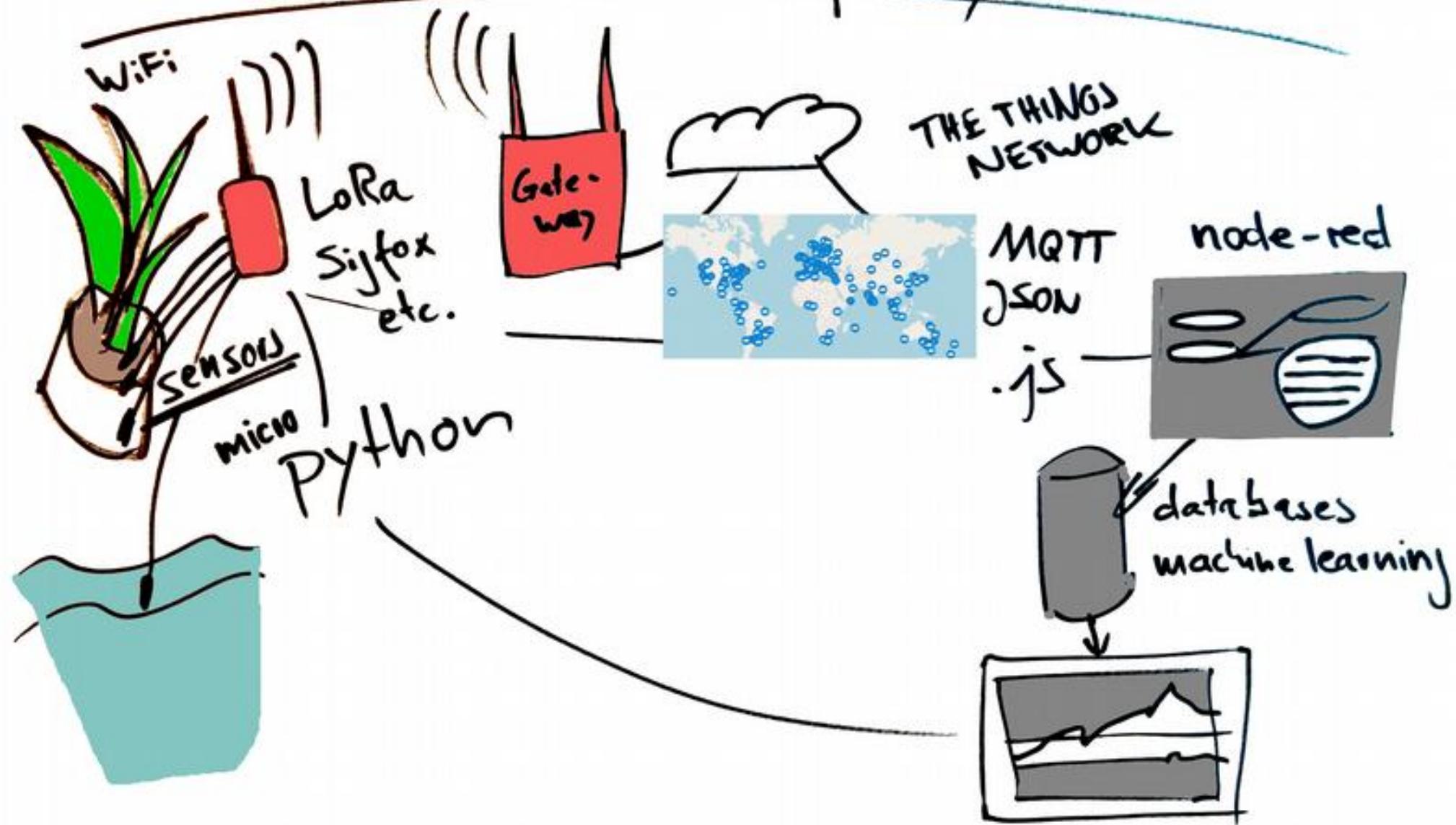
from instrumentation (sensors, actuators, embedded programming, energy) over transmission (networks, gateways) to back-end (storage, analytics).

We study the **socio-technical context and implications** of IoT systems.

Our method is experimental: We **build/evaluate** prototypes. We deploy demonstrators. We collect and curate **data sets**.

We focus on IoT systems **contributing to the UN 2030 Agenda**.

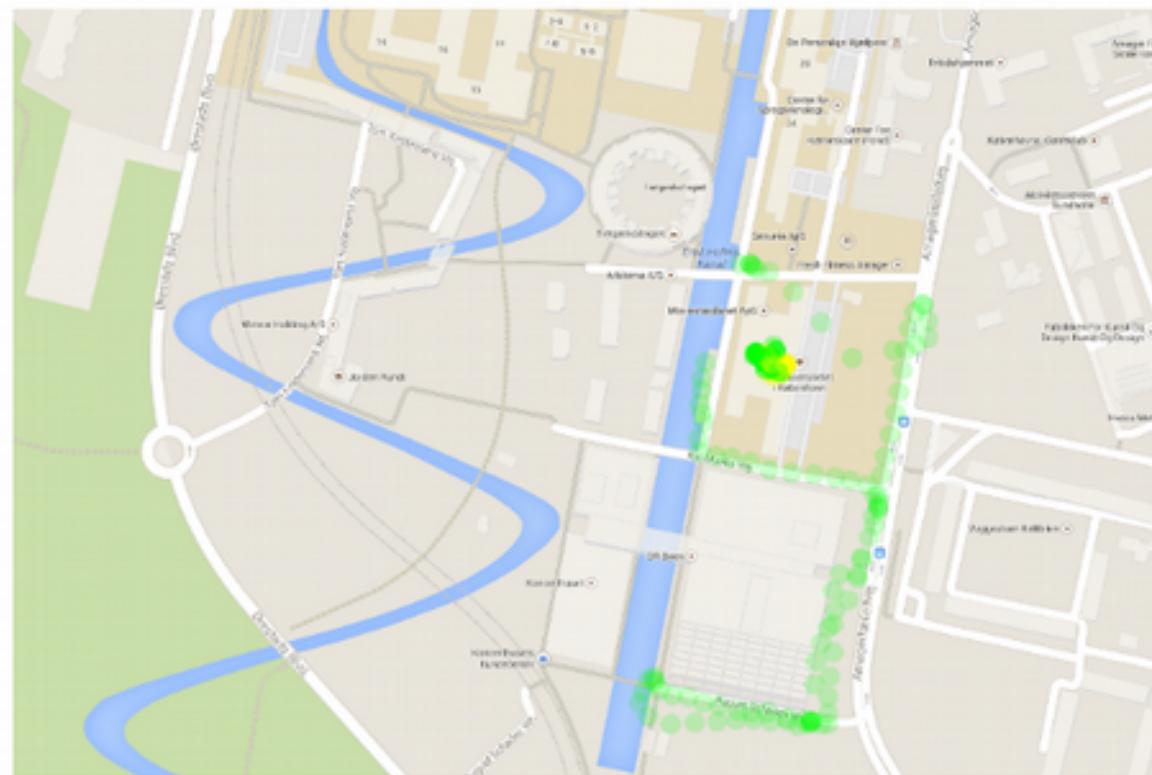
IoT data lifecycles



IoT / ITU - bAIR.dk

PIT LAB

PERVASIVE INTERACTION
TECHNOLOGY LABORATORY



Saving screenshot...

GRAPH

MAP

438

Air Qual. - RI
TGS 2600

Avg

437

Peak

439

65

Sound Level - dB
Phone Microphone

Avg

52

Peak

96

25

Air humidity - RI
RHT03

Avg

34

Peak

43

98

CO Gas - RI
TGS2442

Avg

97

Peak

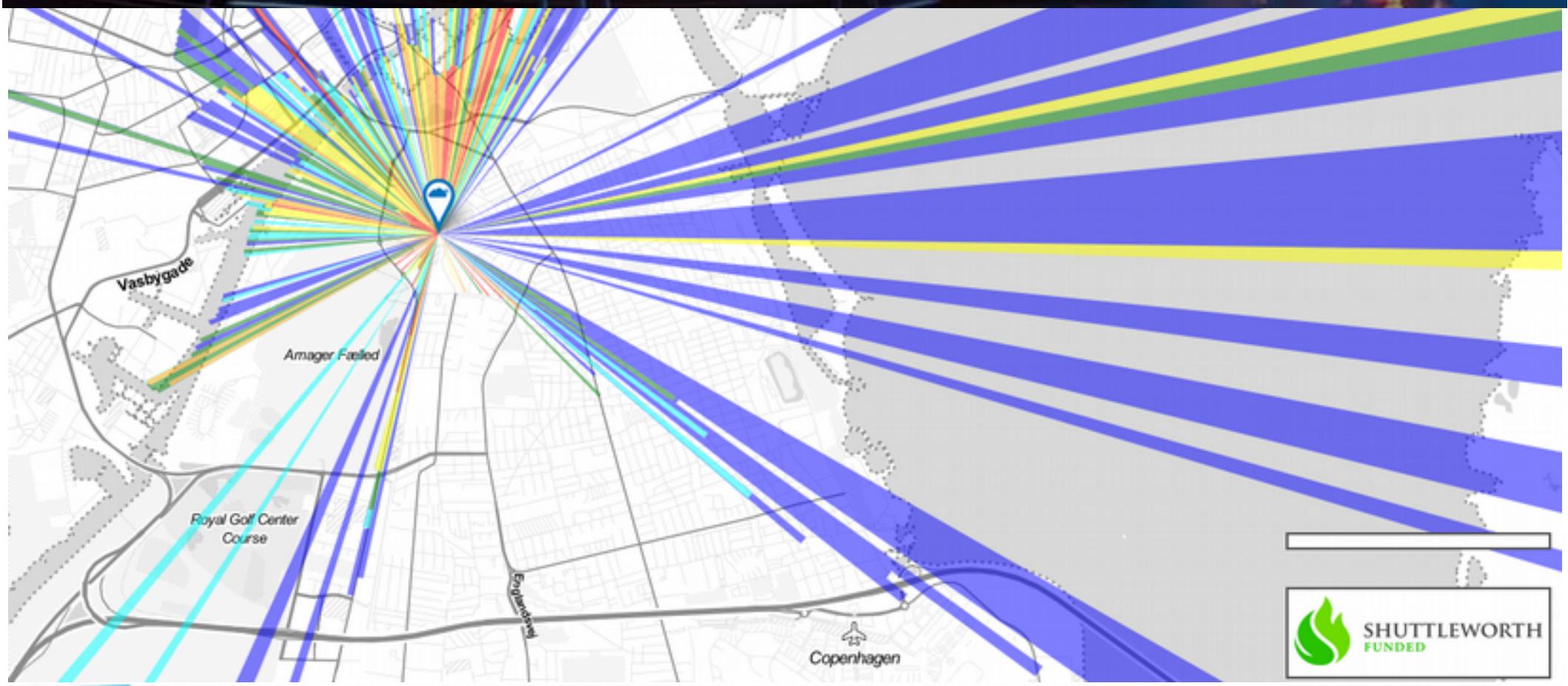
98



Stop Recording



Make Note



Example Course Project: Mobilized Construction

Mobilized Construction

SMARTER INFRASTRUCTURE

Our software and hardware provides transportation professionals real-time road quality data to improve operations and planning to lower costs. Even the smallest cracks in roads can balloon into significant headaches. Let's turn roads into more efficient and valuable assets.

TECHNOLOGY

Using our IoT device or smartphone application, users collect road quality data in real-time. We translate vehicle movements to calculate International Roughness Index (IRI) and use our machine learning algorithms to identify the locations of road hazards like potholes.

Data collection

Road quality (IRI) and road hazards are visualized on maps to quickly identify where potholes are on road networks. Additional layers of data like traffic counts, population density, and locations of schools, hospitals, and markets can be added to add context for decision-making.

Data visualization

Road repair contracts are sent to local construction workers through mobile devices. Individuals repair roads and receive wages through mobile money like M-Pesa once repairs are validated to quality standards.

Mobile contract road repairs

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One of many startups: Monsenso



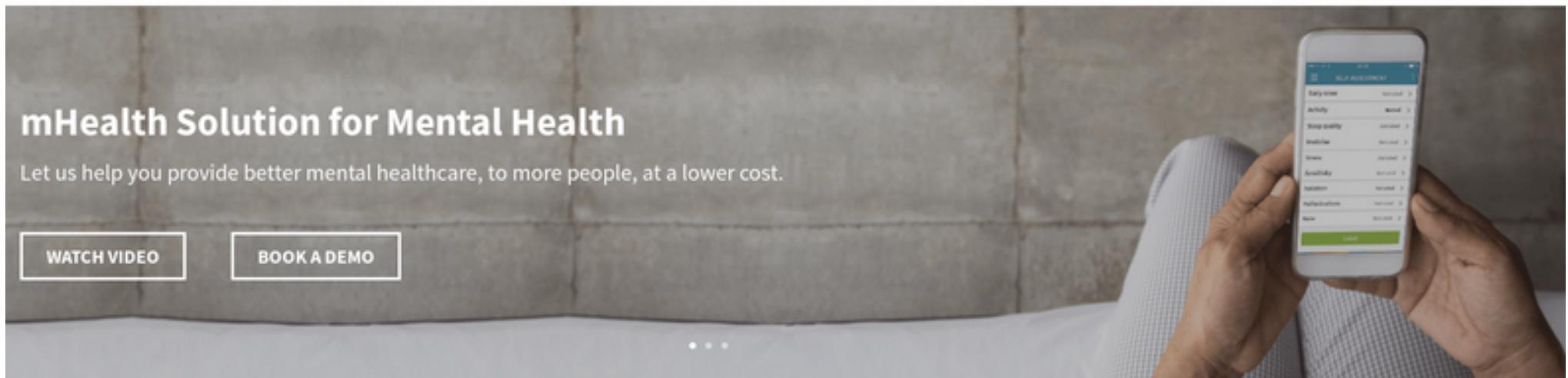
SOLUTION USERS PARTNERS RESOURCES COMPANY CONTACT US

mHealth Solution for Mental Health

Let us help you provide better mental healthcare, to more people, at a lower cost.

[WATCH VIDEO](#)

[BOOK A DEMO](#)



HELPING YOU PROVIDE BETTER MENTAL HEALTHCARE

The Monsenso mHealth solution for mental health can help in the prevention, early intervention and treatment of mental or behavioural disorders. Our aim is to help individuals struggling with their mental health to feel better, faster.

OUR SOLUTION

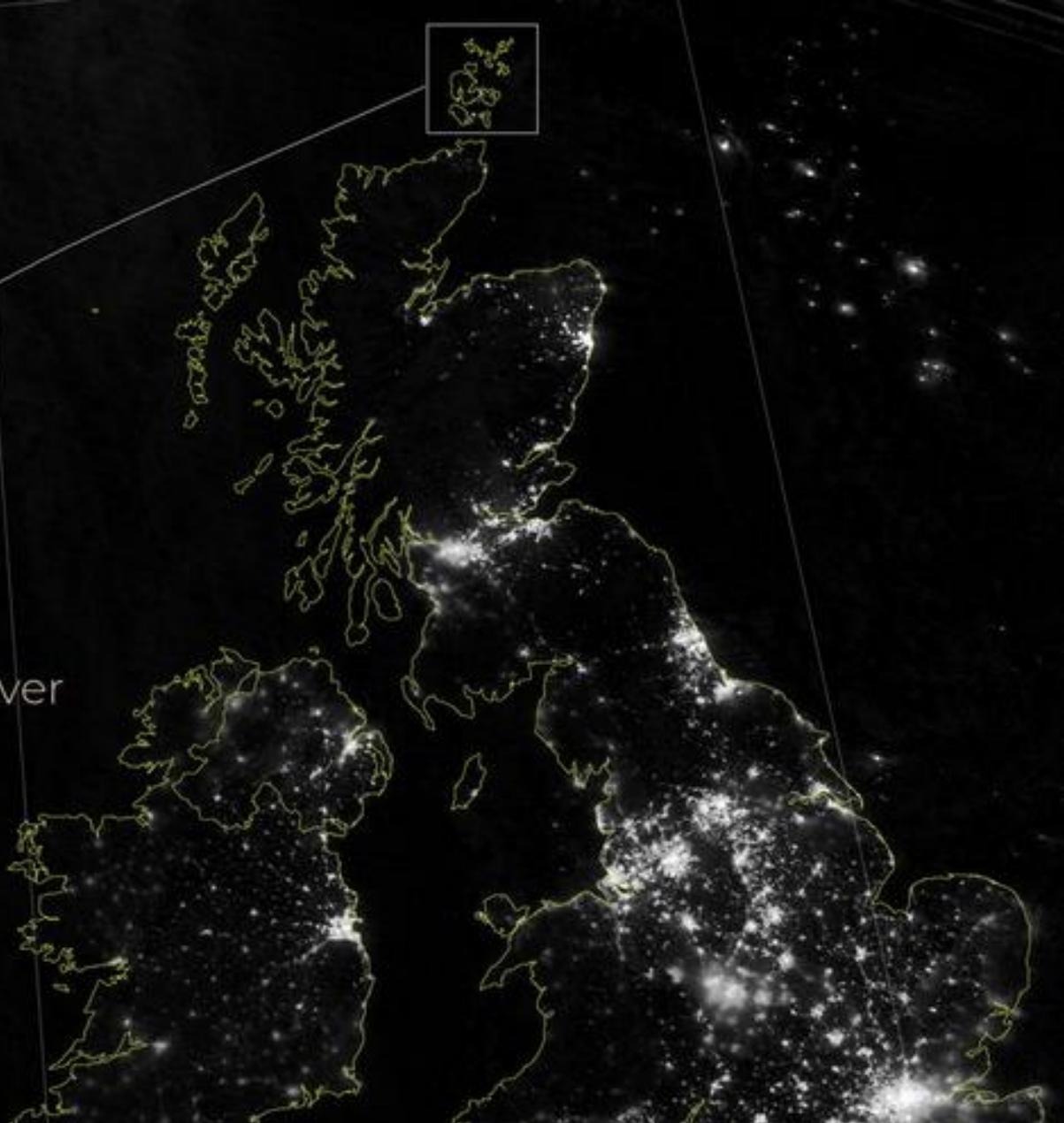
- Promotes self-care
- Enables better clinical treatment
- Facilitates prevention and early intervention
- Enables high-quality remote care based on superior data insight
- Features highly customisable psychoeducation modules



International projects: Orkney Cloud

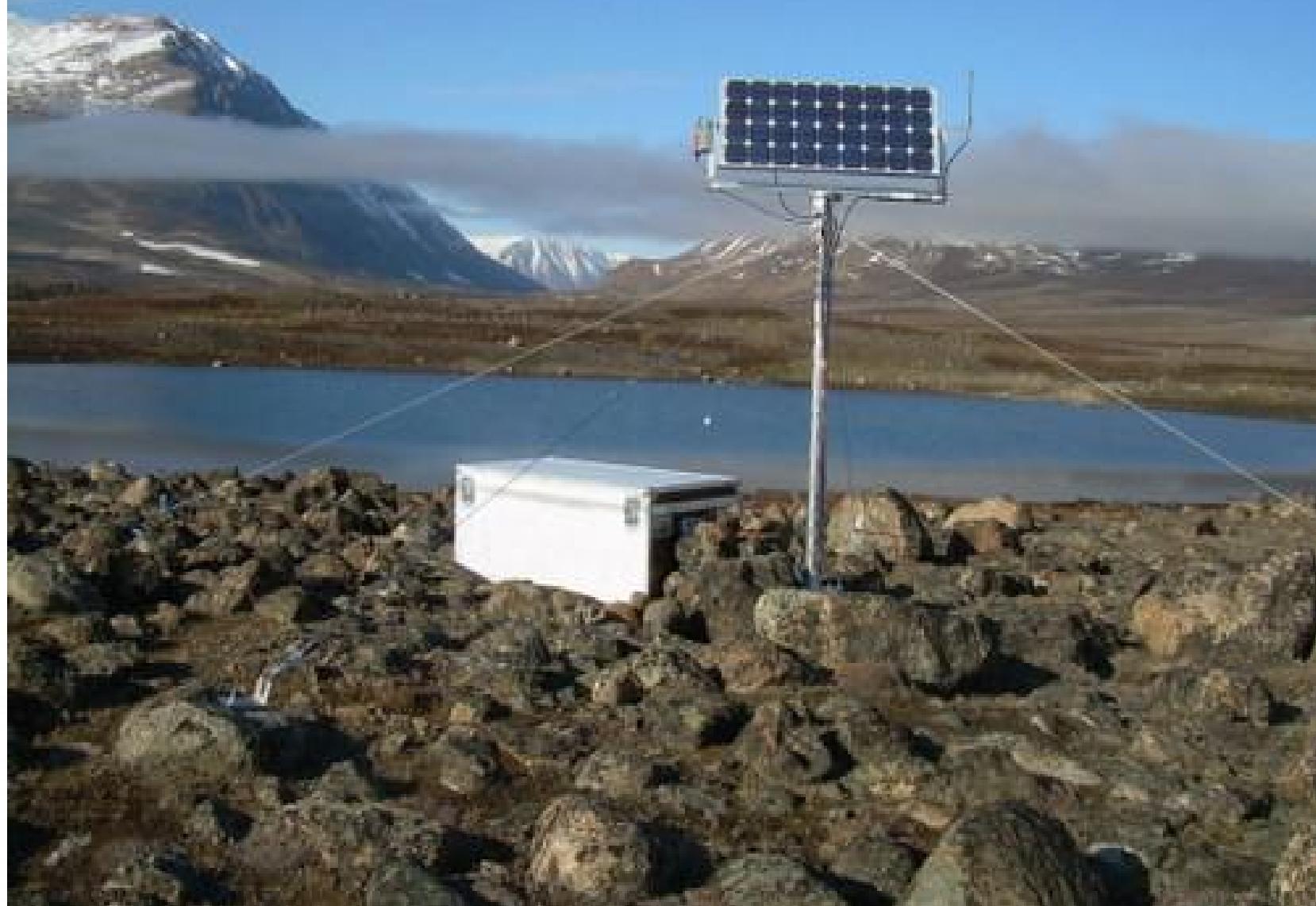
Orkney

"Here, at the edge,
infrastructure... is never
taken for granted."



International projects: Greenland

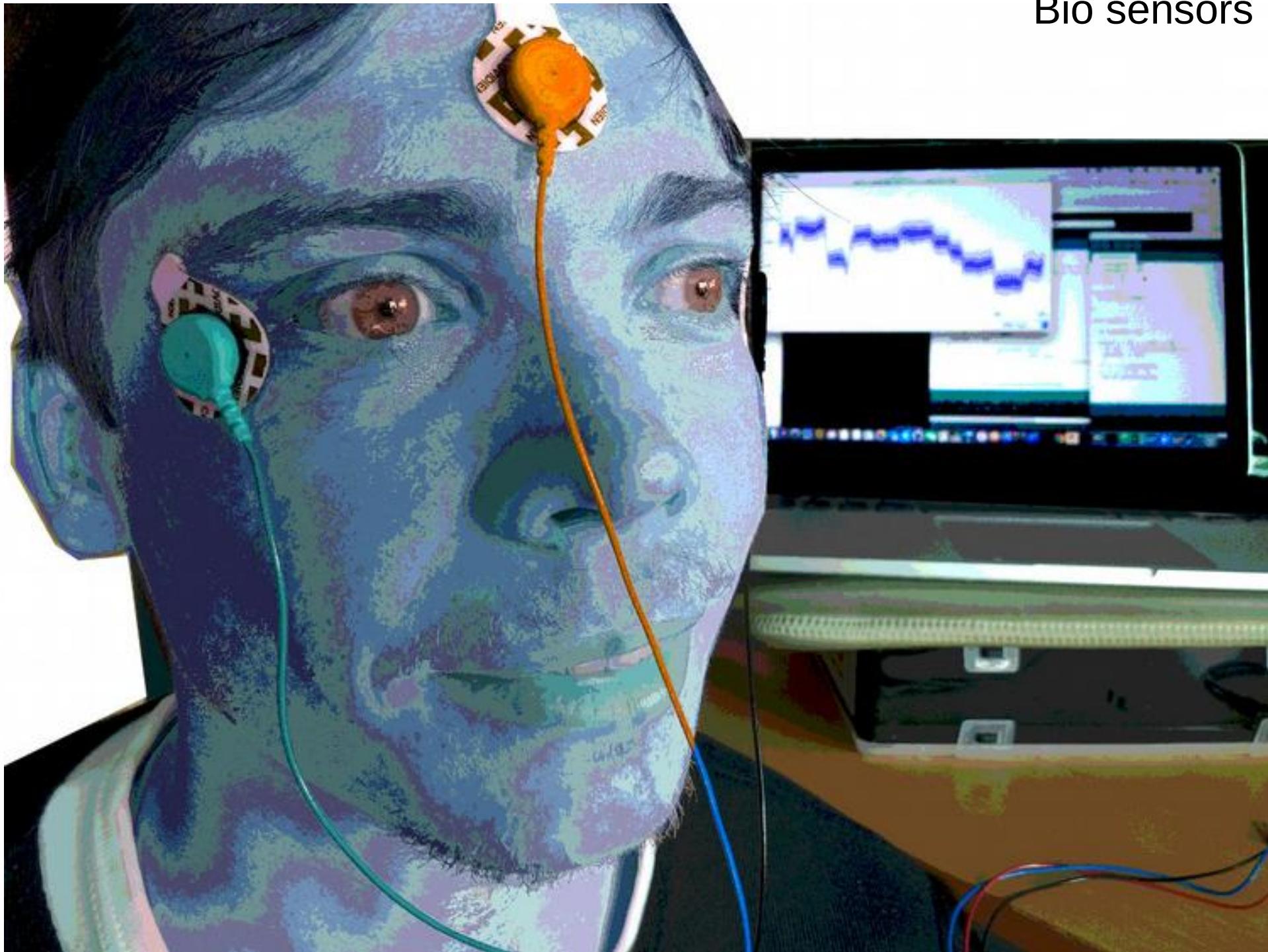
Project MANA - Greenland



International projects: Thailand



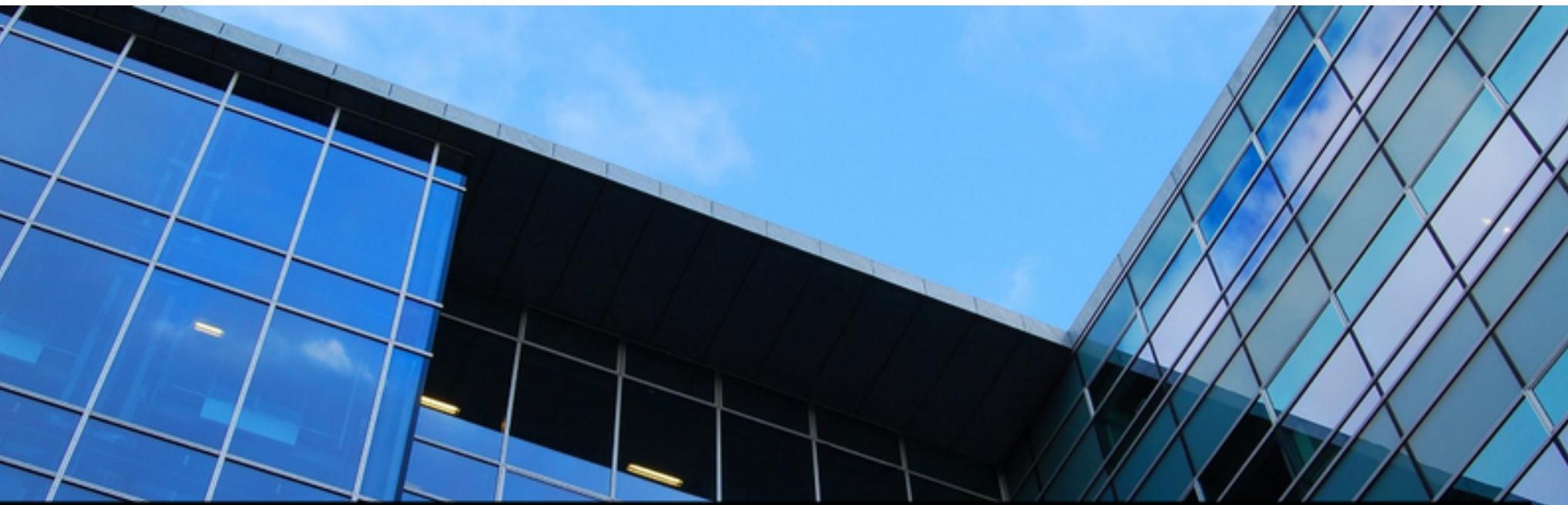
Bio sensors



Famous red suitcase



Edge Computing, Near Data Computing



LightNVM: The Linux Open-Channel SSD Subsystem

Matias Bjørling (ITU, CNEX Labs), Javier González (CNEX Labs), Philippe Bonnet (ITU)

IT UNIVERSITY OF COPENHAGEN

CNEXLABS

Big Data from Space



ITU / PRESS / NEWS FROM ITU / BIG DATA FROM SPACE TO BE USED IN ITU CLASSROOMS

Big data from space to be used in ITU classrooms

A new collaboration between the IT University of Copenhagen and the Danish Agency for Science and Higher Education gives students and researchers the chance to work with data collected by the EU's earth observation program, Copernicus.

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open



open

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