

“An accurate diagnosis is the first step to getting effective treatment”

Tedros Adhanom Ghebreyesus

Director General at World Health Organization



Thematic Platform IVD

Samantha Paoletti & Marc Pfeifer





Chairs: Samantha Paoletti & Marc Pfeifer

Michael Gerspach, Rainer Jäggi, Annalisa Macagno, Adrien Marchand, Dominik Meinel, Daniel Paris, Denis Prim, Daniel Richards, Thomas Stauffer



Swiss TPH



26 OCTOBER 2017 SWISS SYMPOSIUM IN
POINT-OF-CARE DIAGNOSTICS

Swiss Symposium in 3rd announcement
Point-of-Care Diagnostics

Thursday, October 18, 2018



Venue: GKB Auditorium - Chur - Graubünden

Join experts from science, medicine and industry

29 OCTOBER 2020 SWISS SYMPOSIUM IN
POINT-OF-CARE DIAGNOSTICS

Visp - Switzerland - www.pocdx.ch



21 OCTOBER 2021 SWISS SYMPOSIUM IN
POINT-OF-CARE DIAGNOSTICS

www.pocdx.ch - Davos



20 OCTOBER 2022 SWISS SYMPOSIUM IN
POINT-OF-CARE-DIAGNOSTICS
BASEL - SWITZERLAND - WWW.POCDX.CH



SAVE THE DATE
26 OCTOBER 2023 SWISS SYMPOSIUM IN
POINT-OF-CARE DIAGNOSTICS

Sion - HES-SO Valais-Wallis - School of Engineering



George M. Whitesides,
Harvard University, Cambridge



Joseph Wang,
University of California



Dr. Jonathan S. Gootenberg
Dr. Omar O. Abudayyeh
MIT



Nobel Laureate Prof. Harald zur Hausen



Dr. Matthias Essenpreis
Roche Diagnostics



Prof. Benjamin Easter, MD, MBA
NASA



Antonella Chadha Santucci
Women Brain Project



Gyorgy Abel
Beth Israel Deaconess Medical Center

SWISS SYMPOSIUM IN
POINT-OF-CARE DIAGNOSTICS

SAVE THE DATE
October 4th, 2024

TP **TECHNOPARK®**
ZÜRICH

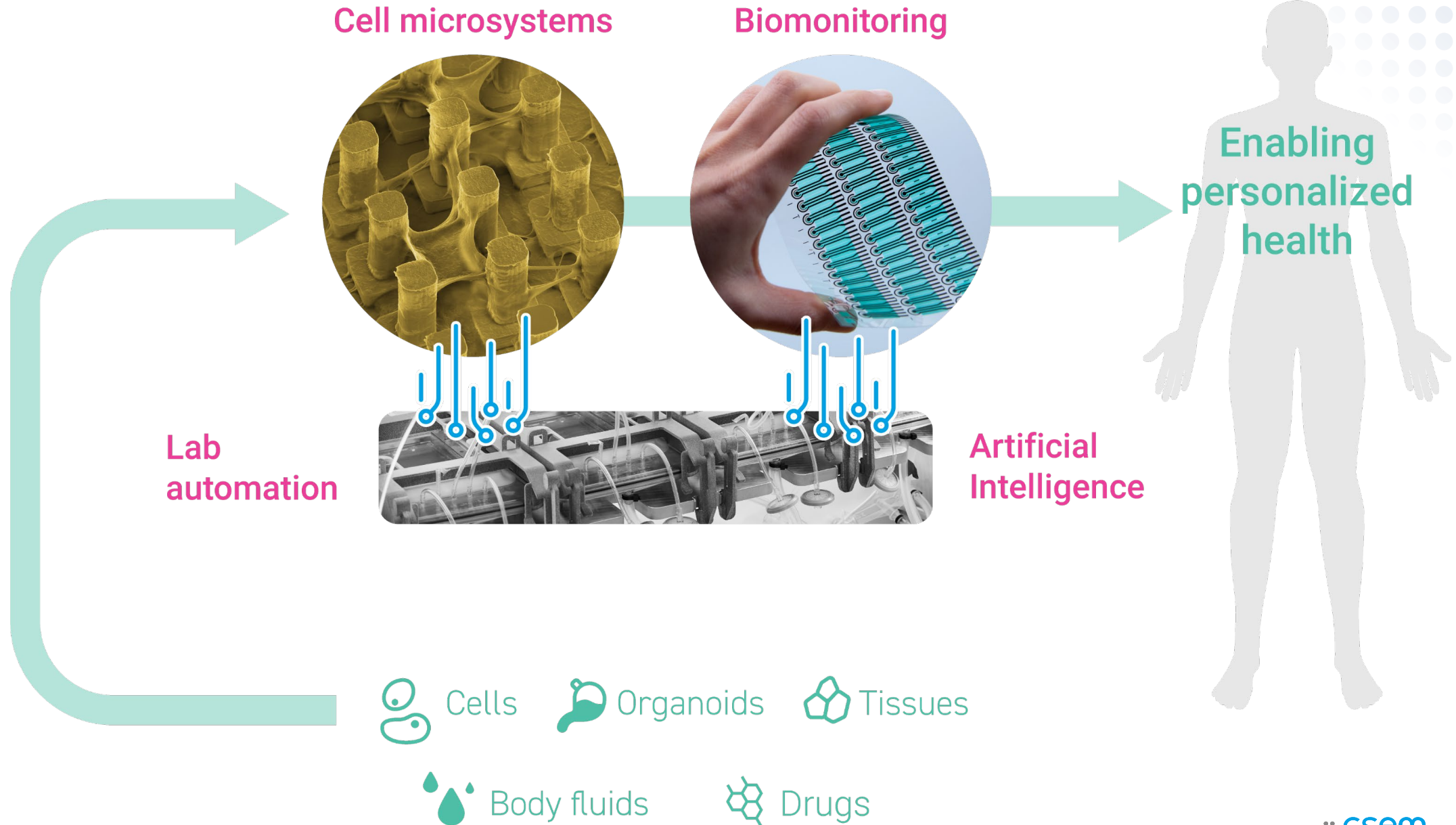


Samantha Paoletti
Head of Research and BD Life Science Technologies

13.12.2023

DIAGNOSTICS AND SUSTAINABLE DEVELOPMENT

Tools for life sciences



POINT OF CARE DIAGNOSTICS

Point-of-care diagnostic devices carry great promise for global health

POINT-OF-CARE DIAGNOSTIC SOCIO-ECONOMIC CONTEXT



Socio-economic market drivers:

- Emerging disease threats
- Increasing demand for self-testing
- Market shaping interventions
- Demand for essential Dx (LMIC)
- Decentralization and scale-up

Disease	Number of PoCT per year
Covid	>1 billion
Malaria	Approx. 412 million
HIV	Approx. 2.4 million
TB	> 3 million

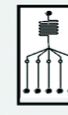
PoC Diagnostic common formats:



Lateral flow assays



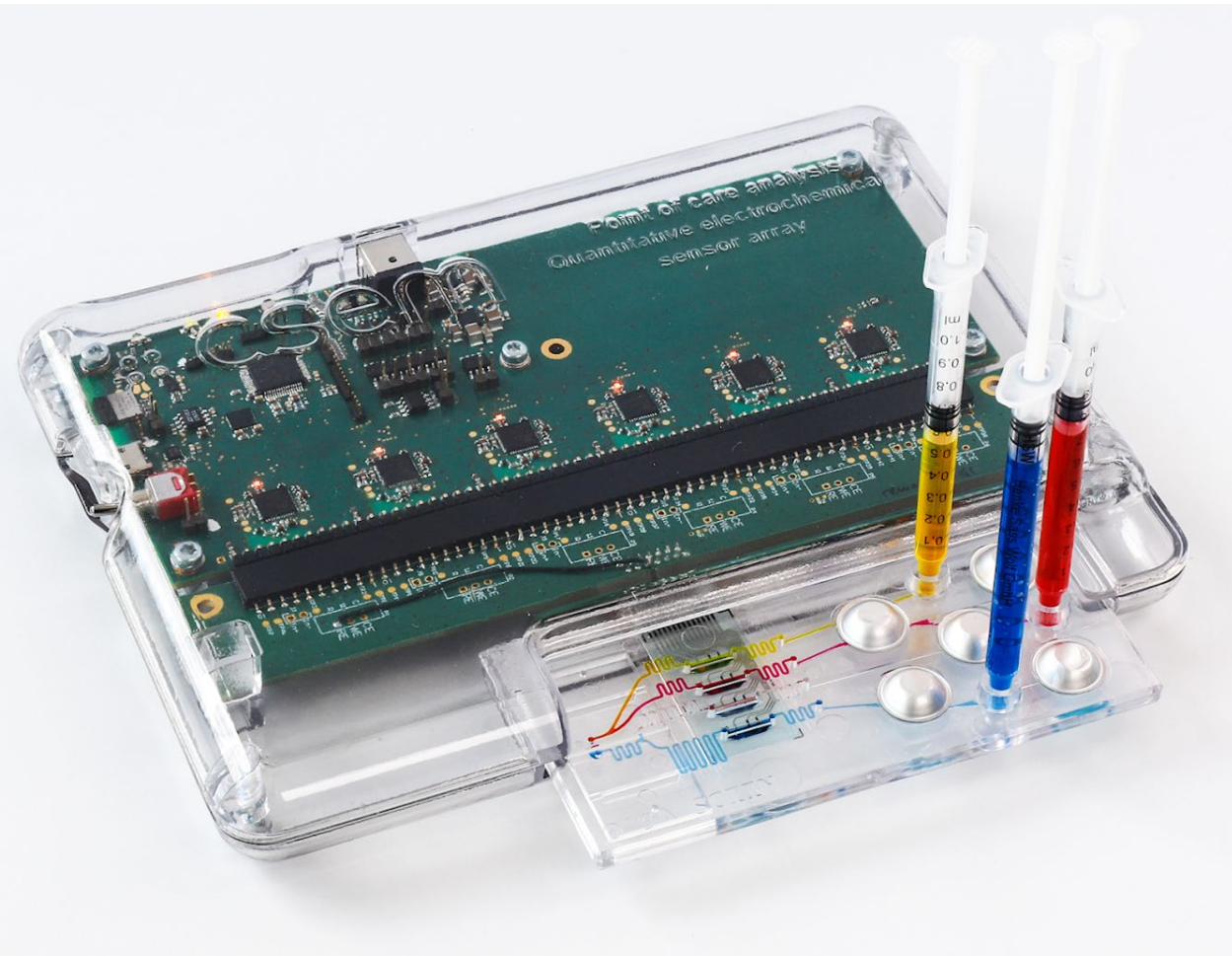
Commercial cartridges



Alternative formats (e.g. microfluidics)

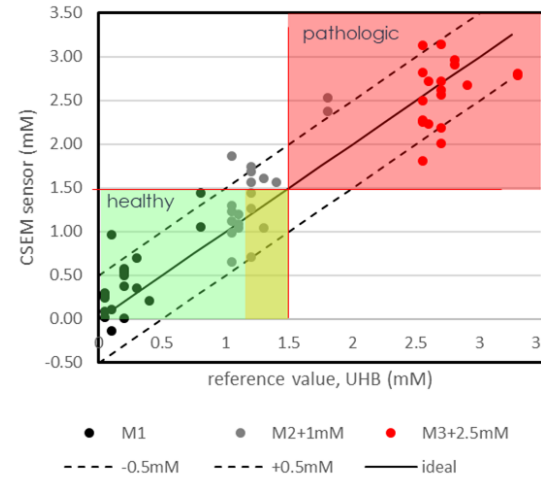


ELECTROCHEMICAL SENSING FOR QUANTITATIVE URINALYSIS



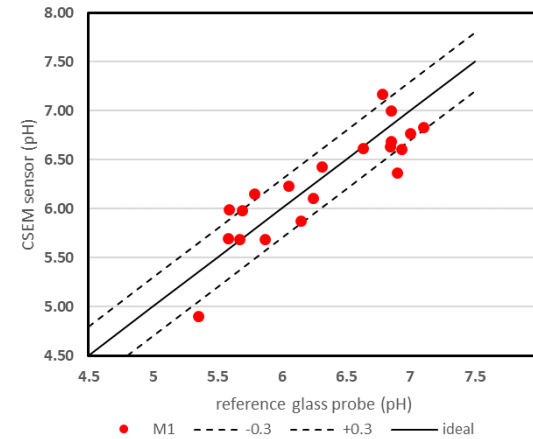
glucose

Factory calibration



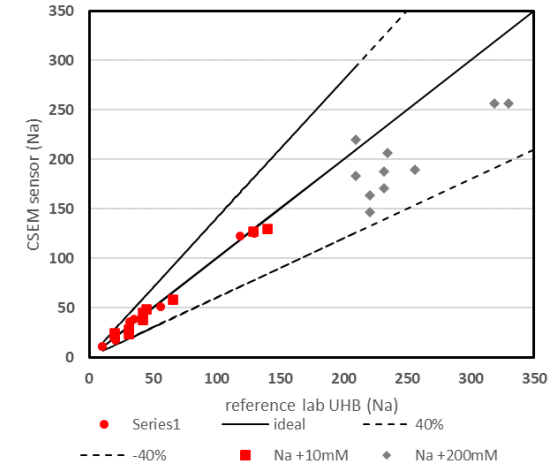
pH

Factory calibration



sodium

1-Point calibration



Swiss TPH
Swiss Tropical and Public Health Institute

STANLEY THOMAS
JOHNSON
STIFTUNG




EMPOWERING MATERNAL HEALTH

high-sensitivity multiplexed rapid
test for preeclampsia diagnostics

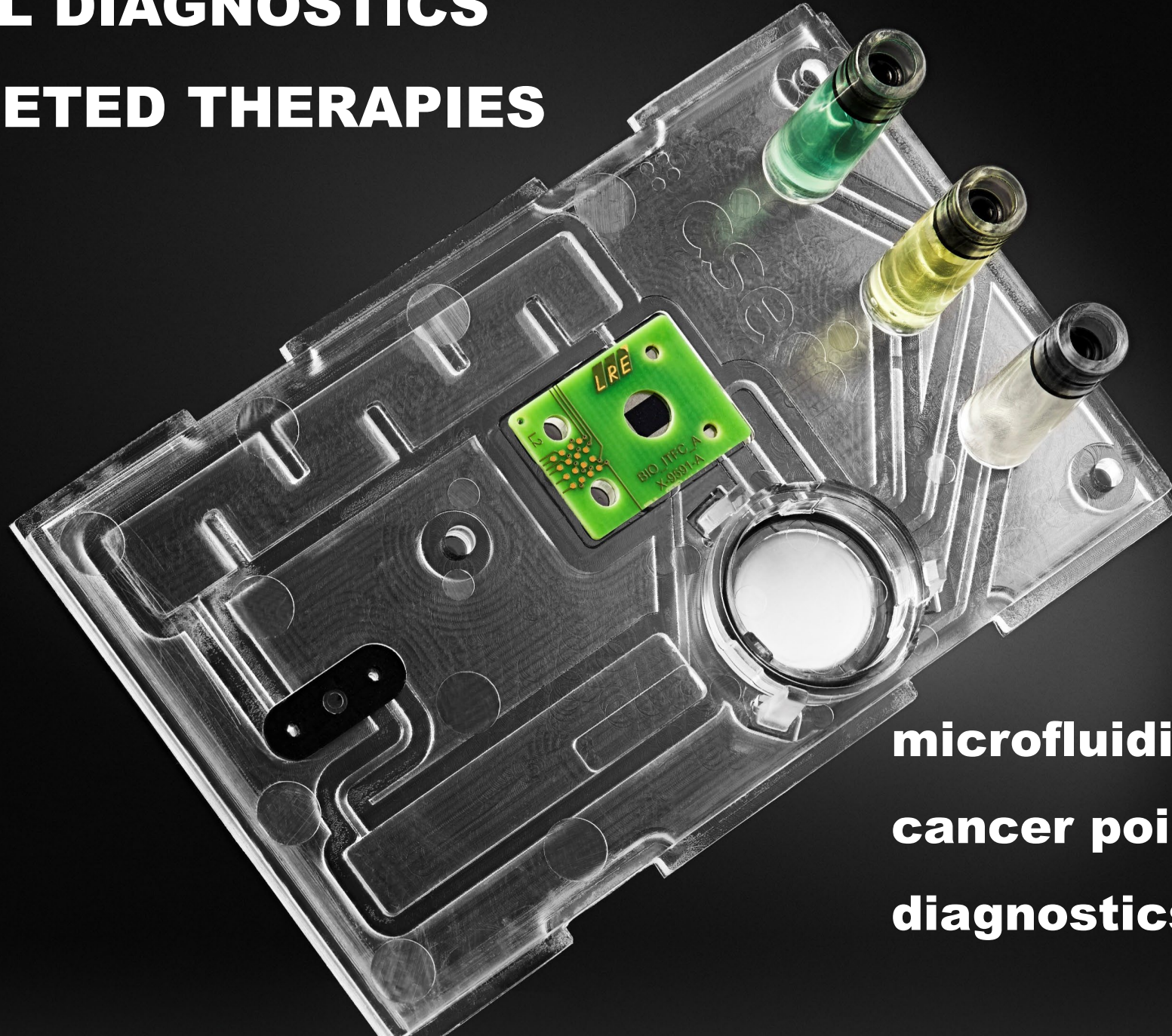


Fachhochschule
Nordwestschweiz

Innovation project
supported by

 Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Confederation
Innosuisse – Swiss Innovation Agency

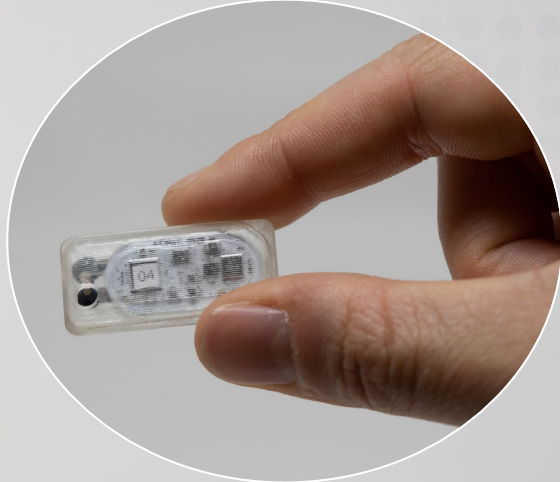
**POWERFUL DIAGNOSTICS
FOR TARGETED THERAPIES**





**microfluidic cartridge for
cancer point-of-care
diagnostics**

IN-MOUTH TRACKING WEARABLES

pH continuous monitoring



Innovation project supported by

-  Schweizerische Eidgenossenschaft
- Confédération suisse
- Confederazione Svizzera
- Confederaziun svizra
- Swiss Confederation
-  Innosuisse – Swiss Innovation Agency

POINT OF CARE DIAGNOSTICS

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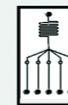
PoC Diagnostic common formats:



Lateral flow assays



Commercial cartridges



Alternative formats (e.g. microfluidics)



POINT OF CARE DIAGNOSTICS

Point-of-care diagnostic devices carry great promise for global health

BUT

poses significant challenges for environmental and human health.

POINT-OF-CARE DIAGNOSTIC SOCIO-ECONOMIC CONTEXT



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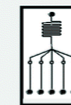
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THE MEDICAL WASTE PROBLEM

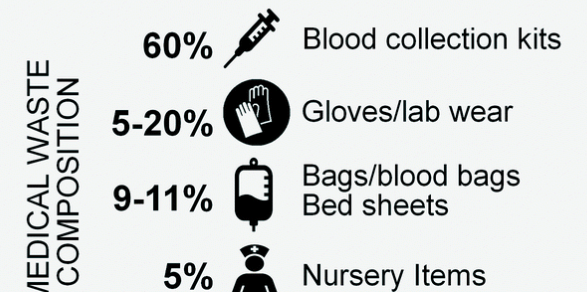
B. THE MEDICAL WASTE PROBLEM

The biomedical industry does not have the best track record when it comes to environmental sustainability:

• Average hospital waste : 1.3 tonnes/day



• Up to 400% during COVID-19



5-20% Other plastics (e.g. single use tests, tips)

SUSTAINABLE SENSOR DEVELOPMENT



Sustainable novel sensing layers



Bio-sourced and bio-degradable substrates



Waste reduction through miniaturization and material reduction



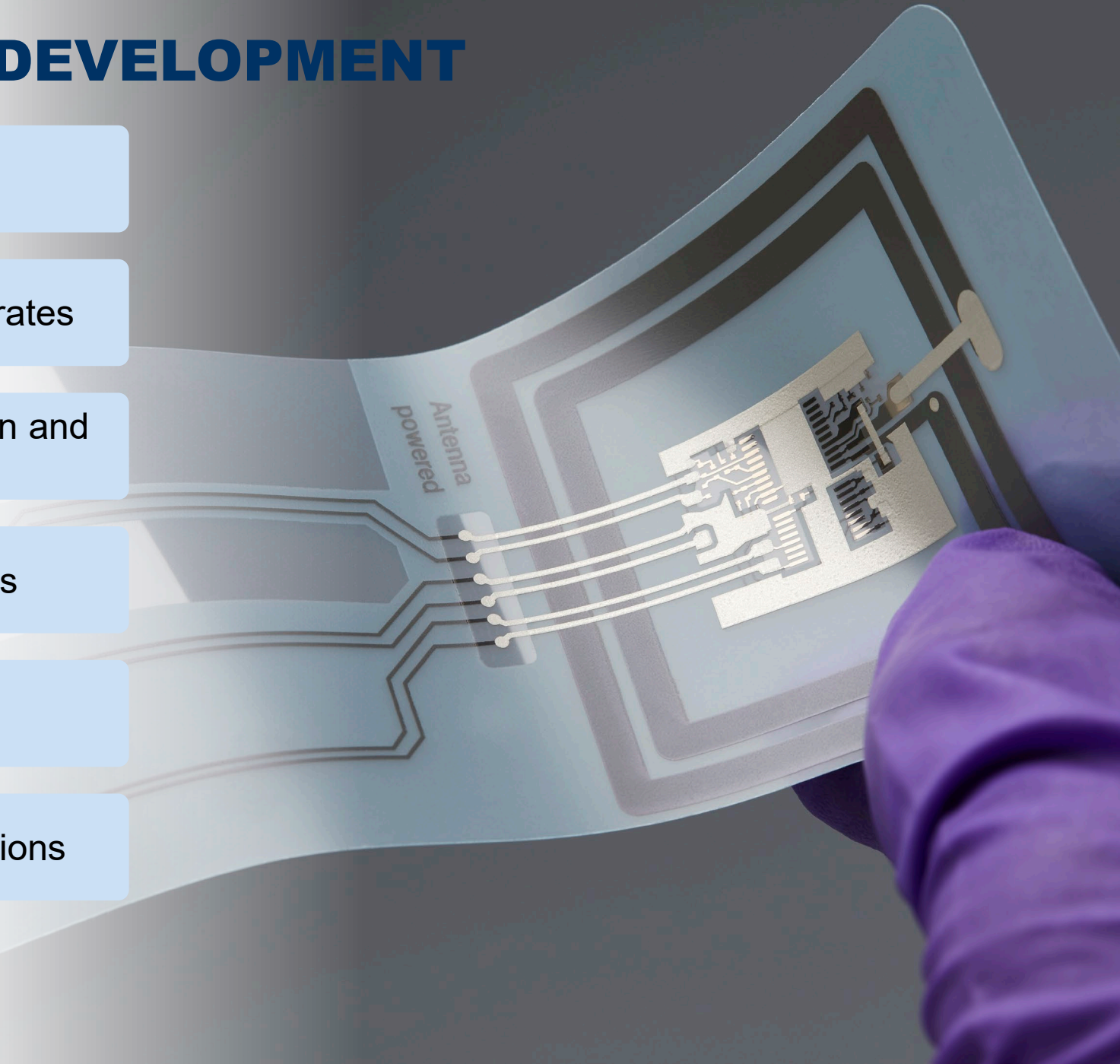
Rare metal and toxic materials free inks



Design for recyclability enhancement



Low cost and disposable sensing solutions



CSEM Tools for Life Sciences Team



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