LOTUS

LOW-COST INNOVATIVE TECHNOLOGY FOR WATER QUALITY MONITORING AND WATER RESOURCES MANAGEMENT FOR URBAN AND RURAL WATER SYSTEMS IN INDIA

# LOTUS Commercial Exploitation

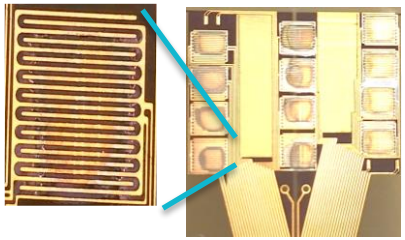

## Dr Bérengère Lebental, Université Gustave Eiffel (France), and the LOTUS consortium
## Sudhanshu Mishra Co-Founder of Hydroscope (startup for commercialisation)



**LOTUS** is co-funded by the European Commission under the Horizon 2020 research and innovation programme under Grant Agreement N° 820881 and by the Indian Government, Ministry of Science and Technology.

# The LOTUS solution

- **Objective:** Creation of innovative affordable technology for India's water challenges
- **The main outcome of LOTUS: A novel multiparameteric water quality sensor**



Novel Sensor Chip

Complete sensor

The LOTUS Box

# Startup for Commercialization


MIC

Ministry of Human Resource Development
Government of India

ज्ञान - विज्ञानं विमुक्तये

AICTE

## National INNOVATION and STARTUP Policy 2019 for Students and Faculty

A Guiding Framework for Higher Education Institutions

# Challenges with Water Quality in India

- Ground water is a major source of drinking water

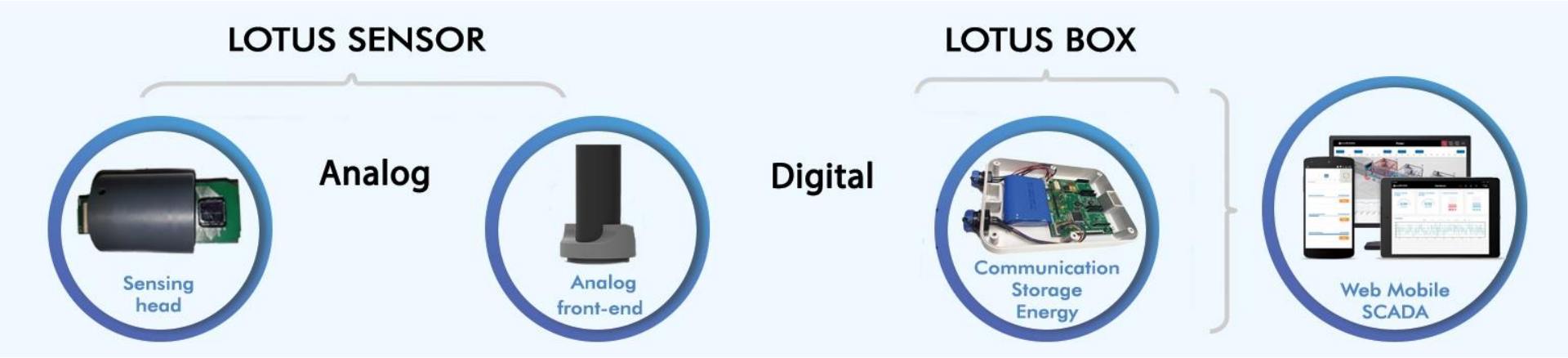
- Ground water has  geo-genic contaminants like
  - Arsenic, Fluoride, Nitrate, Iron, Heavy Metals

- Jal Jeevan Mission (JJM) provides provision of potable water in such areas to save people from health issues arising due to consumption of contaminated water

# Opportunity

- Continuous water quality monitoring and issue resolution in real-time → **Unavailability of affordable device in the market**
- Government of India (GOI) plans to spend ~ 2% of JJM budget to ensure safe drinking water supply in WDN
  - Monitor water quality from a centralized control room using IOT based sensor.
  - Pilot project already completed in 40 villages across India.
  - Expansion plan is in progress

# LOTUS Sensor



# Target Parameters

**Temperature**

0-50°C
±0.1°C


**pH**

5-9
±0.1

**Arsenic**

0-200 ppb
±5ppb

**Fluoride**

0-40 ppm
±0.5ppb


**Chlorine**

0-5ppm
± 0.01mg/L

**TDS**

0-2000µS/cm
±20µS/cm

**Pressure**

**Flow**

External commercial sensor

# Benefits for Customer

Plug and play installation

Long sensor life

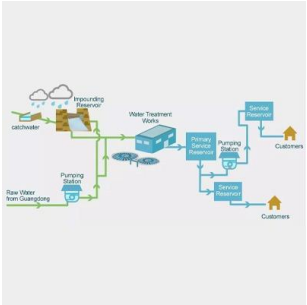
Less maintenance

No field calibration

Real time

Low cost

# Applications

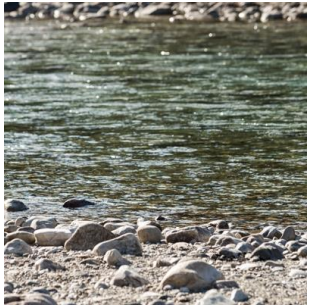



Water Distribution

Swimming Pool

Water Tanker

Waste Water



Ground Water

Irrigation Water

# Our Team

Puneet Talesara
Co-Founder

Sudhanshu Mishra
Co-Founder
+91 958 201 6238
sudhanshu@hydroscope.in

Dr. Bérengère Lebental
Advisor
berengere.lebental@univ-eiffel.fr

Dr. Senthilmurugan Subbiah
Advisor
senthilmurugan@iitg.ac.in

# Main contact

# Why We Are Here?

- Help in getting European Certifications for the LOTUS sensor and system
- Access to European market through partnership
- Explore applications of the sensor in other industries

**Gratitude to the Government of India for establishing a startup-friendly policy and incubation ecosystem that has facilitated technology transfer between Eiffel University Paris, IITs, and the Indian deep tech startup Hydroscope, supported by DST and the EU team.**