

Final steps towards the implementation and potential commercialisation of the LOTUS sensor presented during the consortium meeting in Marne-la-Vallée, France, July 2023

The LOTUS partners met on Monday 3rd and Tuesday 4th of July in Marne-la-Vallée, France at the premises of the Université Gustave Eiffel. This year's meeting focused on the final steps towards the implementation and commercialisation of the LOTUS sensor in India and invited a special guest, Sudhanshu Mishra from Hydroscope Technology Pvt. Ltd., the start-up investigating the production and marketing of the LOTUS sensor for the drinking water market in India.

The first step towards commercialisation is the testing of the LOTUS sensor in real life conditions. This get-together in Marne-la-Vallée was the occasion for the team to witness the LOTUS sensor's successful demonstration in a pipeline loop, in the Sense-City facility. Sense-City is an impressive demonstration site which offers "real life" conditions for the testing of innovative technologies at the Université Gustave Eiffel. Dr Bérengère Lebental and PhD student, Balakumara Vignesh demonstrated the results of the measurements conducted by the LOTUS sensor in different conditions (regular and when chlorine was injected in the pipeline loop) and in comparison, with traditional measurement tools.

In a second step, the LOTUS sensor will be implemented in the water distribution network in Guwahati, India. Final arrangements were discussed, and it was agreed that the LOTUS

sensor's implementation will be performed between September and December. The LOTUS team has developed a bypass system in the distribution network which will be pumping the water from the pipeline network, testing the water through the LOTUS sensor and pumping it back to the pipeline network. The objective of the LOTUS sensor's implementation is to monitor the water quality and detect water contamination.



In parallel to the technology development, testing and implementation, a market study is in progress and performed by ENRICH Global, an international association with the motto “Taking European Innovation Global”. The goal is to assess the opportunities on the Indian and other international markets as Sri Lanka, Bangladesh and Thaïland for the implementation and selling of the LOTUS sensor.

Finally, the meeting ended with a **scientific seminar on “the challenges and prospects related to water processing and water quality in Europe and India” organised by Dr Bérengère Lebental** inviting students, researchers and the IEEE Sensor French community to attend presentations provided by the LOTUS team members on the following topics:

- “Modifier Adaptation – using measurements to optimise with imperfect models” by Prof. Sebastian Engell from TU Dortmund, Germany
- “Recovering electrical energy from forward osmosis process” by Prof. Senthilmurugan Subbiah from the Indian Institute of Technology Guwahati, India
- “Affordable device for seawater analysis” by Dr. Franck Le Gall from EGM, France

- “Assessing the effectiveness of a low-cost multiparametric sensor for real-time water quality monitoring in a controlled lab-scale water distribution network” by Balakumara Vignesh M, PhD student at the Indian Institute of Technology Guwahati, India and the Université Gustave Eiffel, France.

If you have missed the workshop, it has been recorded and will be shared very soon. Stay tuned!



STAY TUNED!



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LOTUS Consortium Members