

"In order to solve the complex problems of today, we need to create a culture of working together on a common solution"

*Dr Asiye Karakullukçu, **Leaders in Innovation Fellowships (LIF)** alumna, is a clinical microbiologist from Turkey. She is an Assistant Professor at Istanbul Gelişim University and the co-founder of **Aksense Medical Biotechnology and DeepMicro Biomedical Ltd.***

We interviewed Asiye on her inspiration, learnings from LIF and her future trajectory:



What inspired you to found Aksense?

As a scientist and entrepreneur, I aim to develop new diagnostic methods for the rapid detection and prevention of infectious diseases.

During my PhD, I was working in the Infection Control Committee Department at Cerrahpasa Medical Faculty and saw the effects of hospital-acquired infections (HAI) in intensive care units. HAI are a major worldwide cause of death and disability, with approximately 4.5 million infections occurring in acute care hospitals in the EU alone. Quick and early diagnosis is critical to control and prevent HAI.

I developed a rapid diagnostic method, and after a successful study I translated my research on rapid diagnostic tools into a blood-based point of care device, which reduces the diagnosis time from 24-72 hours to just five minutes, with 91% accuracy. This fast, portable and easy-to-use biosensor can be used by a doctor, nurse, or even a non-medical professional to diagnose HAI at a patient's bedside, and it does not require expensive specialist laboratory equipment.

What did you learn from the LIF training and follow-on support?

The LIF training was the best in my entrepreneurial adventure because of the great networks I built with the amazing mentors and other entrepreneurs. In order to solve the complex problems of today, we need to create a culture of working together on a common solution. LIF is good for this reason.

Through LIF I changed the business model and strategy of my company Aksense, and improved my pitching and presentation skills with the professional mentors. This training was the first and most useful step forward.

What has happened since you took part in the LIF programme?

Since participating in LIF, we have developed our product, producing a prototype which has already been tested with over 400 patients in Turkey. We have letters of intent from hospitals in Turkey and companies in the UK, and are in the process of obtaining the necessary approvals to enter the EU market.

Aksense was selected as one of the best deep-tech startups in the Hello Tomorrow Turkey challenge 2018 and was invited to the BioConvention 2018 in the US as a finalist of the Turkey Bio-Startup 2018. In March 2019 we took part in the **Newton Fund's T-DEB programme** that supports innovation between Turkey and the UK, and are one of the top 15 companies selected in the Health & Life Sciences strand.

Additionally, since our LIF experience, Aksense has been chosen to take part in the **ICUBE/International Innovation Institute's programme** in London where we will network and meet with investors and collaborators in July 2020.

LIF has been a great opportunity for us, as it has broadened our outreach and given us a chance to grow our company for the future.



What's next?

We are currently developing our product to interact with smartphones and tablets, and we have another project in the pipeline to differentiate between bacterial and viral infections using a point of care device. This will again be a much more cost-effective, quicker, and user-friendly means of diagnosis.

As far as the future is concerned, we are very optimistic that opportunities such as LIF will give us the chance to eventually expand and grow our operations outside of Turkey, including into the EU.

Read more about Asiye's work on the [Aksense website](#).