LIBRA

Light based multisensing device
for screening of pathogens and nutrients in bioreactors

Start date:	1-1-2023
Runtime:	36 months
End date:	31-12-2025
EC Funding:	HORIZON-RIA
Coordinator:	NATIONAL TECHNICAL UNIVERSITY OF ATHENS
Demcon:	DLSH Enschede

General information:

LIBRA project introduces a benchtop smart multi-sensing system for the in-line automatable screening of cultivation processes in bioreactors. The LIBRA sensing technology lies in the use of light based integrated on-chip, real time sensors. A novel integration procedure of the photonic platforms together with disposable microfluidic modules and biofunctionalization units will result in a modular system with interchangeable components enabling the screening of nutrients and pathogens in bioreactor samples, according to the end users need. Furthermore, the LIBRA system will be able to be attached and integrated to various bioreactor systems regardless of their form factors, spanning from stirred tank bioreactors to single use bioreactors (SUB).

Vision and impact:

LIBRA project will be fulfilled from a highly multi-disciplinary consortium comprising expertise and specialization in several fields spanning photonics, surface functionalization, microfluidics, advanced packaging and assembly, artificial intelligence and bioreactor manufacturers. Moreover, LIBRA business strategy includes the market introduction of both the individually developed modules and processes and the overall LIBRA platform through direct exploitation and joint venture creation. LIBRA technologies are expected to provide added value across the value chain of PIC devices, bioreactors, AI and machine learning, laser biofunctionalization and cell therapy bioprocessing. The industrial partners of the consortium are expected to increase their innovation capacity and their product portfolios.

Project Website:

https://www.libraproject.eu/

LIBRA has received funding from the European Union's Horizon research and Innovation programme under grant agreement No 101093150